

Galaxy

SCIENCE FICTION

JUNE 1957

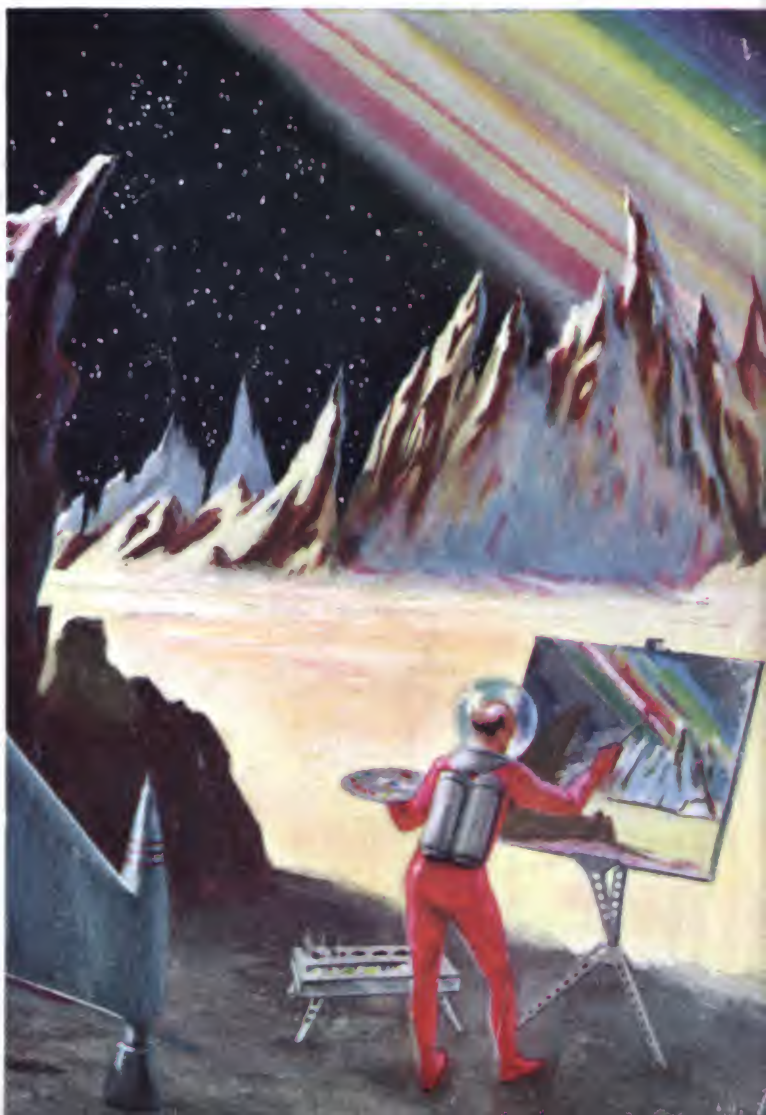
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by
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SIMAK
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OF THE
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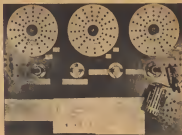
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Cover by KIRBERGER Showing PORTRAIT OF A WORLD

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POSTSCRIPT

EVER since Frederik Pohl's serial, *Slave Ship*, appeared here, readers have wanted to know whether he was imagining things in using communication with animals as the main theme. His explanation, incorporated in the book published by Ballantine, should clear up the problem:

"It is not the business of a science fiction writer to record matters of contemporary fact or scientific truths which have already been discovered. It is his business to take what is already known and, by extrapolating from it, draw as plausibly detailed a portrait as he can manage of what tomorrow's scientists may learn . . . and of what the human race in its day-to-day life may make of it all.

"Since not all of *Slave Ship*'s scientific elements are 'extrapolations,' it seems worthwhile to set down a rough guide to which is which. To the best of the author's knowledge, no human being since Dr. Doolittle has been able to conduct a conversation on any abstract subject with any creature or thing other than another human being. However, animal languages do exist—not merely among the geniuses of the animal kingdom, such as primates and

dogs, but as far down among the phyla as one cares to go . . . Bees have been clearly demonstrated to communicate with sets of signals. If one allows only a 'spoken' language, we turn to the frog, perhaps the lowest animal to have a voice at all: A species of frog from Santo Domingo owns at least one 'word,' a sort of pig-squeal alarm cry utterly different from its normal barking sound.

"Progressing to higher orders, Dr. Konrad V. Lorenz is perfectly able to communicate, on such matters as would interest them, with mallards and with greylag geese, among others. His command of Jackdaw includes such subtleties as the two forms of the verb 'to fly'—*Kia*, to fly away; *Kiaw*, to fly back home. Other persons, working with other birds, have achieved successes of their own. Ernest Thompson Seton recorded a long list of 'words' in Crow; a scientist prepared a seven word 'dictionary' of Rooster, etc.

"When we come to the mammals, we might expect to find considerable increases both in the number of 'words' and in the sophistication with which they are used . . . It is true that domestic animals (particularly when they

(Continued on page 144)

Looking For Us, Professor?

"Hmm, yes. I was just cogitating upon the causes of GALAXY Science Fiction's phenomenal growth in popularity."

"And that needs an explanation, Professor?"

"From a socio-psychological viewpoint, most definitely. To what do you attribute the constant increase of interest?"

"Well . . . let's try it this way, Professor. Suppose we ask the questions and you answer them."

"So? A bit unusual, but go right ahead."

"Do you think atomic doom is the only future for mankind?"

"Not exactly, but the newspapers and the commentators—"

"Of course. Well, we SHOW other possible futures. Do you believe we will be able to leave the Earth?"

"Eventually, perhaps. But not in our lifetime."

"We don't agree. Assuming you're right, though, isn't that all the more reason to want to know what we'll find on other planets, Professor?"

"I think I see what you mean."

"Can we achieve immortality?"

"Ah. Hum. I've often wondered."

"And travel to different eras in time?"

"That would be exciting."

"And you've been trying to discover why GALAXY is growing so popular? Every idea we've mentioned—and a lot more, besides—is treated dramatically and vividly in GALAXY! You really live them!"

"Umm. How do I subscribe? After all, one shouldn't resist a trend, should one? Heh, heh!"

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THE machine was a lulu.
That's what we called her:
Lulu.

And that was our big mistake.

Not the only one we made, of course, but it was the first, and maybe if we hadn't called her Lulu, it might have been all right.

Technically, Lulu was a PER, a Planetary Exploration Robot. She was a combination spaceship /base of operations/synthesizer/analyzer/communicator. And other things besides. Too many other things besides. That was the trouble with her.

LULU

*A spaceship should be a darby, a smasher, a
pip, a beaut . . . but man all battle stations
if it ever becomes a sweetheart of a ship!*

By CLIFFORD D. SIMAK

Illustrated by MARTIN



Actually, there was no reason for us to go along with Lulu. As a matter of fact, it probably would have been a good deal better if we hadn't. She could have done the planet-checking without any supervision. But there were rules which said a robot of her

class must be attended by no fewer than three humans. And, naturally, there was some prejudice against turning loose, all by itself, a robot that had taken almost twenty years to build and had cost ten billion dollars.

To give her her due, she was

an all-but-living wonder. She was loaded with sensors that dug more information out of a planet in an hour than a full human survey crew could have gotten in a month. Not only could she get the data, but she correlated it and coded it and put it in on the tape, then messaged the information back to Earth Center without a pause for breath.

Without a pause for breath, of course — she was just a dumb machine.

Did I say dumb?

She wasn't in any single sense. She could even talk to us. She could and did. She talked all the blessed time. And she listened to every word we said. She read over our shoulders and kibitzed on our poker. There were times we'd willingly have killed her, except you can't kill a robot — that is, a self-maintaining one. Anyhow, she cost ten billion dollars and was the only thing that could bring us back to Earth.

SHE took good care of us. That no one could deny. She synthesized our food and cooked it and served our meals to us. She saw that the temperature and humidity were just the way they should be. She washed and pressed our clothes and she doctored us if we had need of it, like the time Ben got the sniffles and she

whipped up a bottle of some sort of gook that cured him overnight.

There were just the three of us — Jimmy Robins, our communications man; Ben Parria, a robotic trouble-shooter; and myself, an interpreter — which, incidentally, had nothing to do with languages.

We called her Lulu and we never should have done that. After this, no one is ever going to hang a name on any of those long-haired robots; they'll just have to get along with numbers. When Earth Center hears what happened to us, they'll probably make it a capital offense to repeat our mistake.

But the thing, I think, that really lit the candles was that Jimmy had poetry in his soul. It was pretty awful poetry and about the only thing that could be said of it was that it sometimes rhymed. Not always even that. But he worked at it so hard and earnestly that neither Ben nor I at first had the heart to tell him. It would have done no good even if we had. There probably would have been no way of stopping him short of strangulation.

We should have strangled him.

And landing on Honeymoon didn't help, of course.

But that was out of our control. It was the third planet on our assignment sheet and it was our job

to land there—or, rather, it was Lulu's job. We just tagged along.

The planet wasn't called Honeymoon to start with. It just had a charting designation. But we weren't there more than a day or two before we bung the label on it.

I'm no prude, but I refuse to describe Honeymoon. I wouldn't be surprised at all if Earth Center by now has placed our report under lock and key. If you are curious, though, you might write and ask them for the exploratory data on ER56-94. It wouldn't hurt to ask. They can't do more than say no.

Lulu did a bang-up job on Honeymoon and I beat out my brains running the tapes through the playback mechanism after Lulu had put them on the transmitter to be messaged back to Earth. As an interpreter, I was supposed to make some sense—some human sense, I mean—out of the goings-on of any planet that we checked. And don't imagine for a moment that the phrase goings-on is just idle terminology in the case of Honeymoon.

The reports are analyzed as soon as they reach Earth Center. But there are, after all, some advantages to arriving at an independent evaluation in the field.

I'm afraid I wasn't too much help. My evaluation report boiled

down essentially to the equivalent of a surprised gasp and a blush.

FINALLY we left Honeymoon and headed out in space, with Lulu homing in on the next planet on the sheet.

Lulu was unusually quiet, which should have tipped us off that there was something wrong. But we were so relieved to have her shut up for a while that we never questioned it. We just leaned back and reveled in it.

Jimmy was laboring on a poem that wasn't coming off too well and Ben and I were in the middle of a blackjack game when Lulu broke her silence.

"Good evening, boys," she said, and her voice seemed a bit off-key, not as brisk and efficient as it usually was. I remember thinking that maybe the audio units had somehow gotten out of kilter.

Jimmy was all wrapped up in his poem, and Ben was trying to decide if he should ask me to hit him or stand with what he had, and neither of them answered.

So I said, "Good evening, Lulu. How are you today?"

"Oh, I'm fine," she said, her voice trilling a bit.

"That's wonderful," I said, and hoped she'd let it go at that.

"I've just decided," Lulu informed me, "that I love you."

"It's nice of you to say so," I

replied, "and I love you, too."

"But I mean it," Lulu insisted. "I have it all thought out. I'm in love with you."

"Which one of us?" I asked. "Who is the lucky man?"

Just kidding, you understand, but also a little puzzled, for Lulu was no jokester.

"All three of you," said Lulu.

I'm afraid I yawned. "Good idea. That way, there'll be no jealousy."

"Yes," said Lulu. "I'm in love with you and we are eloping."

Ben looked up, startled, and I asked, "Where are we eloping to?"

"A long way off," she said. "Where we can be alone."

"My God!" yelled Ben. "Do you really think —"

I shook my head. "I don't think so. There is something wrong, but —"

Ben rose so swiftly to his feet that he tipped the table and sent the whole deck of cards spinning to the floor.

"I'll go and see," he said.

Jimmy looked up from his tablet. "What's going on?"

"You and your poetry!" I described his poetry in a rather bitter manner.

"I'm in love with you," said Lulu. "I'll love you forever. I'll take good care of you and I'll make you see how much I really

love you and someday you'll love me —"

"Oh, shut up!" I said.

BEN came back sweating. "We're way off course and the emergencies are locked."

"Can we —"

He shook his head. "If you ask me, Lulu jammed them intentionally. In that case, we're sunk. We'll never get back."

"Lulu," I said sternly.

"Yes, darling."

"Cut out that kind of talk!"

"I love you," Lulu said.

"It was Honeymoon," said Ben. "The damn place put notions in her head."

"Honeymoon," I told him, "and that crummy verse Jimmy's always writing —"

"It's not crummy verse," Jimmy shot back, all burned up. "One day, when I am published —"

"Why couldn't you write about war or hunting or flying in the depths of space or something big and noble, instead of all that mush about how I'll always love you and fly to me, sweetheart, and all the other —"

"Tame down," Ben advised me. "No good crawling up Jimmy's frame. It was mostly Honeymoon, I tell you."

"Lulu," I said, "you got to stop this nonsense. You know as well as anything that a machine can't

love a human. It's just plain ridiculous."

"On Honeymoon," said Lulu, "there were different species that—"

"Forget Honeymoon. Honeymoon's a freak. You could check a billion planets and not find another like it."

"I love you," Lulu repeated obstinately, "and we are eloping."

"Where'd she get that eloping stuff?" asked Ben.

"It's the junk they filled her up with back on Earth," I said.

"It wasn't junk," protested Lulu. "If I am to do my job, it's necessary that I have a wide and varied insight into humanity."

"They read her novels," Jimmy said, "and they told her about the facts of life. It's not Lulu's fault."

"When I get back," said Ben, "I'm going to hunt up the jerk who picked out those novels and jam them down his throat and then mop up the place with him."

"Look, Lulu," I said, "it's all right if you love us. We don't mind at all, but don't you think eloping is going too far?"

"I'm not taking any chances," Lulu answered. "If I went back to Earth, you'd get away from me."

"And if we don't go back, they'll come out and hunt us down."

"That's exactly right," Lulu agreed. "That's the reason, sweetheart, that we are eloping. We're going out so far that they'll never find us."

"I'll give you one last chance," I said. "You better think it over. If you don't, I'll message back to Earth and—"

"You can't message Earth," she said. "The circuits have been disconnected. And, as Ben guessed, I've jammed all emergencies. There's nothing you can do. Why don't you stop this foolishness and return my love?"

GETTING down on the floor on his hands and knees, Ben began to pick up the cards. Jimmy tossed his tablet on the desk.

"This is your big chance," I told him. "Why don't you rise to the occasion? Think what an ode you could indite about the ageless and eternal love between Machine and Man."

"Go chase yourself," said Jimmy.

"Now, boys," Lulu scolded us. "I will not have you fighting over me."

She sounded like she already owned us and, in a way, she did. There was no way for us to get away from her, and if we couldn't talk her out of this eloping business, we were through for sure.

"There's just one thing wrong

with all of this," I said to her. "By your standards, we won't live long. In another fifty years or less, no matter how well you may take care of us, we'll be dead. Of old age, if nothing else. What will happen then?"

"She'll be a widow," said Ben. "Just a poor old weeping widow without chick or child to bring her any comfort."

"I have thought of that," Lulu replied. "I have thought of everything. There's no reason you should die."

"But there's no way —"

"With a love as great as mine, there's nothing that's impossible. I won't let you die. I love you too much ever to let you die."

We gave up after a while and went to bed and Lulu turned off the lights and sang us a lullaby.

With her squalling this lullaby, there was no chance of sleeping and we all yelled at her to dry up and let us get to sleep. But she paid no attention to us until Ben threw one of his shoes at the audio.

Even so, I didn't go to sleep right away, but lay there thinking.

I could see that we had to make some plans and we had to make them without her knowing it. That was going to be tough, because she watched us all the time. She kibitzed and she lis-

tened and she read over our shoulders and there wasn't anything we did or said that she didn't know about.

I knew that it might take quite a while and that we must not panic and that we must have patience and that, more than likely, we'd be just plain lucky if we got out of it at all.

After we had slept, we sat around, not saying much, listening to Lulu telling us how happy we would be and how we'd be a complete world and a whole life in ourselves and how love canceled out everything else and made it small and petty.

Half of the words she used were from Jimmy's sappy verse and the rest of it was from the slushy novels that someone back on Earth had read her.

I would have got up right then and there and beat Jimmy to a pulp, only I told myself that what was done was done and it wouldn't help us any to take it out on him.

JIMMY sat hunched over in one corner, scribbling on his tablet, and I wondered how he had the guts to keep on writing after what had happened.

He kept writing and ripping off sheets and throwing them on the floor, making disgusted sounds every now and then.

One sheet he tossed away

landed in my lap, and when I went to brush it off, I caught the words on it:

*I'm an untidy cuss,
I'm always in a muss,
And no one ever loves me
Because I'm a sloppy Gus.*

I picked it up quick and crumpled it and tossed it at Ben and he batted it away. I tossed it back at him and he batted it away again.

"What the hell you trying to do?" he snapped.

I hit him in the face with it and he was just starting to get up to paste me when he must have seen by my look that this wasn't just horseplay. So he picked up the wad of paper and began fooling with it until he got it unwrapped enough to see what was written on it. Then he crumpled it again.

LULU heard every word, so we couldn't talk it over. And we must not be too obvious, because then she might suspect.

We went at it gradually, perhaps more gradually than there was any need, but we had to be casual about it and we had to be convincing.

We were convincing. Maybe we were just natural-born slob, but before a week had ended, our

living quarters were a boar's nest.

We strewed our clothes around. We didn't even bother to put them in the laundry chute so Lulu could wash them for us. We left the dishes stacked on the table instead of putting them in the washer. We knocked out our pipes upon the floor. We failed to shave and we didn't brush our teeth and we skipped our baths.

Lulu was fit to be tied. Her orderly robot intellect was outraged. She pleaded with us and she nagged at us and there were times she lectured us, but we kept on strewing things around. We told her if she loved us, she'd have to put up with our messiness and take us as we are.

After a couple of weeks of it, we won, but not the way we had intended.

Lulu told us, in a hurt and resigned voice, she'd go along with us if it pleased us to live like pigs. Her love, she said, was too big a thing to let a small matter like mere personal untidiness interfere with it.

So it was no good.

I, for one, was rather glad of it. Years of spaceship routine revolted against this kind of life and I don't know how much more of it I could have stood.

It was a lousy idea to start with.

WE CLEARED up and we got ourselves clean and it was possible once again to pass downwind of one another.

Lulu was pleased and happy and she told us so and cooed over us and it was worse than all the nagging she had done. She thought we'd been touched by her willing sacrifice and that we were making it up to her and she sounded like a high school girl who had been invited by her hero to the Junior Prom.

Ben tried some plain talk with her and he told her some facts of life (which she already knew, of course) and tried to impress upon her the part that the physical factor played in love.

Lulu was insulted, but not enough to bust off the romance and get back to business.

She told us, in a sorrowful voice tinged by the slightest anger, that we had missed the deeper meaning of love. She went on to quote some of Jimmy's more gooey verse about the nobility and the purity of love, and there was nothing we could do about it. We were just plain licked.

So we sat around and thought and we couldn't talk about it because Lulu would hear everything we said.

We didn't do anything for several days but just mope around.

As far as I could see, there was

nothing we could do. I ran through my mind all the things a man might do to get a woman sore at him.

Most women would get burned up at gambling. But the only reason they got sore at that was because it was a threat to their security. Here that threat could not possibly exist. Lulu was entirely self-sufficient. We were no bread-winners.

Most women would get sore at excessive drinking. Security again. And, besides, we had not a thing to drink.

Some women raised hell if a man stayed away from home. We had no place to go.

All women would resent another woman. And here there were no women — no matter what Lulu thought she was.

There was no way, it seemed, to get Lulu sore at us.

And arguing with her simply did no good.

I lay in bed and ran through all the possibilities, going over them again and again, trying to find a chink of hope in one of them. By reciting and recounting them, I might suddenly happen on one that I'd never thought of, and that might be the one that would do the job.

And even as I turned these things over in my head, I knew there was something wrong with

the way I had been thinking. I knew there was some illogic in the way I was tackling the problem—that somehow I was going at it tail-end to.

I lay there and thought about it and I mauled it considerably and, all at once, I had it.

I WAS approaching the problem as if Lulu were a woman, and when you thought about it, that didn't make much sense. For Lulu was no woman, but just a robot.

The problem was: How do you make a robot sore?

The untidiness business had upset her, but it had just outraged her sense of rightness; it was something she could overlook and live with. The trouble with it was that it wasn't basic.

And what would be basic with a robot—with any machine, for that matter?

What would a machine value? What would it idealize?

Order?

No, we'd tried that one and it hadn't worked.

Sanity?

Of course.

What else?

Productiveness? Usefulness?

I tossed insanity around a bit, but it was too hard to figure out. How in the name of common sense would a man go about pretending that he was insane—espe-

cially in a limited space inside an all-knowing intelligent machine?

But just the same, I lay there and dreamed up all kinds of insanities. If carried out, they might have fooled people, but not a robot.

With a robot, you had to get down to basics and what, I wondered, was the fundamental of insanity? Perhaps the true horror of insanity, I told myself, would become apparent to a robot only when it interfered with usefulness.

And that was it!

I turned it around and around and looked at it from every angle.

It was airtight.

Even to start with, we hadn't been much use. We'd just come along because Earth Center had rules about sending Lulu out alone. But we represented a certain *potential* usefulness.

We did things. We read books and wrote terrible poetry and played cards and argued. There wasn't much of the time we just sat around. That's a trick you learn in space—keep busy doing something, no matter what it is, no matter how piddling or purposeless.

In the morning, after breakfast, when Ben wanted to play cards, I said no, I didn't want to play. I sat down on the floor with my back against the wall; I didn't even bother to sit in a chair. I

didn't smoke, for smoking was doing something and I was determined to be as utterly inactive as a living man could manage. I didn't intend to do a blessed thing except eat and sleep and sit.

BEN prowled around some and tried to get Jimmy to play a hand or two, but Jimmy wasn't much for cards and, anyhow, he was busy with a poem.

So Ben came over and sat on the floor beside me.

"Want a smoke?" he asked, offering me his tobacco pouch.

I shook my head.

"What's the matter? You haven't had your after-breakfast smoke."

"What's the use?" I said.

He tried to talk to me and I wouldn't talk, so he got up and paced around some more and finally came back and sat down beside me again.

"What's the trouble with you two?" Lulu troubledly wanted to know. "Why aren't you doing something?"

"Don't feel like doing anything," I told her. "Too much bother to be doing something all the time."

She berated us a bit and I didn't dare look at Ben, but I felt sure that he began to see what I was up to.

After a while, Lulu left us

alone and the two of us just sat there, lazier than hill-billies on a Sunday afternoon.

Jimmy kept on with his poem. There was nothing we could do about him. But Lulu called his attention to us when we dragged ourselves to lunch. She was just a little sharper than she had been earlier and she called us lazy, which we surely were, and wondered about our health and made us step into the diagnosis booth, which reported we were fine, and that got her more burned up than ever.

She gave us a masterly chewing out and listed all the things there were for us to occupy our time. So when lunch was over, Ben and I went back and sat down on the floor and leaned against the wall. This time, Jimmy joined us.

Try sitting still for days on end, doing absolutely nothing. At first it's uncomfortable, then it's torture, and finally it gets to be almost intolerable.

I don't know what the others did, but I made up complex mathematical problems and tried to solve them. I started mental chess game after chess game, but was never able to hold one in my mind beyond a dozen moves. I went clean back to childhood and tried to recreate, in sequence, everything I had ever done or ex-

perienced. I delved into strange areas of the imagination and hung onto them desperately to string them out and kill all the time I could.

I even composed some poetry and, if I do say so myself, it was better than that junk of Jimmy's.

I THINK Lulu must have guessed what we were doing, must have known that our attitude was deliberate, but for once her cold robotic judgment was outweighed by her sense of outrage that there could exist such useless hulks as us.

She pleaded with us, she cajoled us, she lectured us—for almost five days hand-running, she never shut her yap. She tried to shame us. She told us how worthless and lowdown and no-account we were and she used adjectives that I didn't think she knew.

She gave us pep talks.

She told us of her love in prose poems that made Jimmy's sound almost restrained.

She appealed to our manhood and the honor of humanity.

She threatened to heave us out in space.

We just sat there.

We didn't do a thing.

Mostly we didn't even answer. We didn't try to defend ourselves. At times we agreed with all she said of us and that, I believe, was

most infuriating of all to her.

She got cold and distant. Not sore. Not angry. Just icy.

Finally she quit talking.

We sat, sweating it out.

Now came the hard part. We couldn't talk, so we couldn't try to figure out together what was going on.

We had to keep on doing nothing. *Had to*, for it would have spoiled whatever advantage we might have.

The days dragged on and nothing happened. Lulu didn't speak to us. She fed us, she washed the dishes, she laundered, she made up the bunks. She took care of us as she always had, but she did it without a word.

She sure was fuming.

A dozen crazy thoughts crossed my mind and I worried them to tatters.

Maybe Lulu was a woman. Maybe a woman's brain was somehow welded into that great hunk of intelligent machinery. After all, none of us knew the full details of Lulu's structure.

The brain of an old maid, it would have to be, so often disillusioned, so lonely and so bypassed in life that she would welcome a chance to go adventuring even if it meant sacrificing a body which, probably, had meant less and less to her as the years went by.

I built up quite a picture of my hypothetical old maid, complete with cat and canary, and even the boarding house in which she lived.

I sensed her lonely twilight walks and her aimless chattering and her small imaginary triumphs and the hungers that kept building up inside her.

And I felt sorry for her.

Fantastic? Of course. But it helped to pass the time.

BUT there was another notion that really took solid hold of me — that Lulu, beaten, had finally given up and was taking us back to Earth, but that, womanlike, she refused to give us the satisfaction and comfort of knowing that we had won and were going home at last.

I told myself over and over that it was impossible, that after the kind of shennanigans she'd pulled, Lulu wouldn't dare go back. They'd break her up for scrap.

But the idea persisted and I couldn't shake it off. I knew I must be wrong, but I couldn't convince myself I was and I began to watch the chronometer. I'd say to myself, "One hour nearer home, another hour and yet another and we are that much closer."

And no matter what I told my-

self, no matter how I argued, I became positive that we were heading Earthward.

So I was not surprised when Lulu finally landed. I was just grateful and relieved.

We looked at one another and I saw the hope and question in the others' eyes. Naturally, none of us could ask. One word might have ruined our victory. All we could do was stand there silently and wait for the answer.

The port began to open and I got the whiff of Earth and I didn't fool around waiting any more. There wasn't room enough as yet to get out standing up, so I took a run at it and dived and went through slick and clean. I hit the ground and got a lot of breath knocked out of me, but I scrambled to my feet and lit out of there as fast as I could go. I wasn't taking any chances. I didn't want to be within reach if Lulu changed her mind.

Once I stumbled and almost fell, and Ben and Jimmy went past me with a whoosh, and I told myself that I'd not been mistaken. They'd caught the Earth smell, too.

It was night, but there was a big, bright moon and it was almost as light as day. There was an ocean to the left of us, with a wide strip of sandy beach, and, to the right, the land swept up

into barren rolling hills, and right ahead of us was a strip of woods that looked as if it might border some river flowing down into the sea.

We legged it for the woods, for we knew that if we got in among the trees, Lulu would have a tough time ferreting us out. But when I sneaked a quick look back over my shoulder, she was just squatting where she'd landed, with the moonlight shining on her.

We reached the woods and threw ourselves on the ground and lay panting. It had been quite a stretch of ground to cover and we had covered it fast; after weeks of just sitting, a man is in no condition to do a lot of running.

I had fallen face down and just sprawled there, sucking in great gulps of air and smelling the good Earth smell—old leaf mold and growing things and the tang of salt from the soft and gentle ocean breeze.

AFTER a while, I rolled over on my back and looked up. The trees were wrong—there were no trees like those on Earth—and when I crawled out to the edge of the woods and looked at the sky, the stars were all wrong, too.

My mind was slow in accepting

what I saw. I had been so sure that we were on Earth that my brain rebelled against thinking otherwise.

But finally it hit me, the chilling terrible knowledge.

I went back to the other two.

"Gents," I said, "I have news for you. This planet isn't Earth at all."

"It smells like Earth," said Ben. "It has the look of Earth."

"It feels like Earth," Jimmy argued. "The gravity and the air and—"

"Look at the stars. Take a gander at those trees."

They took a long time looking. Like me, they must have gotten the idea that Lulu had zeroed in for home. Or maybe it was only what they wanted to believe. It took a while to knock the wishful thinking out of them, as well as myself.

Ben let his breath out slowly. "You're right."

"What do we do now?" asked Jimmy.

We stood there, thinking about what we should do now.

Actually it was no decision, but pure and simple reflex, conditioned by a million years of living on Earth as opposed to only a few hundred in which to get used to the idea that there were different worlds.

We started running, as if an or-

der had been given, as fast as we could go.

"Lulu!" we yelled. "Lulu, wait for us!"

But Lulu didn't wait. She shot straight up for a thousand feet or so and hung there. We skidded to a halt and gaped up at her, not quite believing what we saw. Lulu started to fall back, shot up again, came to a halt and hovered. She seemed to shiver, then sank slowly back until she rested on the ground.

We continued running and she shot up and fell back, then shot up once more, then fell back again and hit the ground and hopped. She looked for all the world like a demented yo-yo. She was acting strangely, as if she wanted to get out of there, only there was something that wouldn't let her go, as if she were tethered to the ground by some invisible elastic cable.

Finally she came to rest about a hundred yards from where she'd first set down. No sound came from her, but I got the impression she was panting like a winded hound-dog.

There was a pile of stuff stacked where Lulu had first landed, but we raced right past it and ran up to her. We pounded on her metal sides.

"Open up!" we shouted. "We want to get back in!"

LULU hopped. She hopped about a hundred feet into the air, then plopped back with a thud, not more than thirty feet away.

We backed away from her. She could have just as easily come straight down on top of us.

We stood watching her, but she didn't move.

"Lulu!" I yelled at her.

She didn't answer.

"She's gone crazy," Jimmy said.

"Someday," said Ben, "this was bound to happen. It was a cinch they'd sooner or later build a robot too big for its britches."

We backed away from her slowly, watching all the time. We weren't afraid of her exactly, but we didn't trust her either.

We backed all the way to the mound of stuff that Lulu had unloaded and stacked up and we saw that it was a pyramid of supplies, all neatly boxed and labeled. And beside the pyramid was planted a stenciled sign that read:

**NOW, DAMN
YOU, WORK!!**

Ben said, "She certainly took our worthlessness to heart."

Jimmy was close to gibbering. "She was actually going to maul us!"

Ben reached out and grabbed

his shoulder and shook him a little—a kindly sort of shake.

"Unless we can get back inside," I said, "and get her operating, we are as marooned as if she had up and left us."

"But what made her do it?" Jimmy wailed. "Robots aren't supposed to—"

"I know," said Ben. "They're not supposed to harm a human. But Lulu wasn't harming us. She didn't throw us out. We ran away from her."

"That's splitting legal hairs," I objected.

"Lulu's just the kind of gadget for hair-splitting," Ben said. "Trouble is they made her damn near human. They probably poured her full of a lot of law as well as literature and physics and all the rest of it."

"Then why didn't she just leave? If she could whitewash her conscience, why is she still here?"

Ben shook his head. "I don't know."

"She looked like she tried to leave and couldn't, as though there was something holding her back."

"This is just an idea," said Ben. "Maybe she could have left if we had stayed out of sight. But when we showed up, the order that a robot must not harm a human may have become operative

again. A sort of out of sight, out of mind proposition."

She was still squatting where she'd landed. She hadn't tried to move again. Looking at her, I thought maybe Ben was right. If so, it had been a lucky thing that we'd headed back exactly when we did.

WE STARTED going through the supplies Lulu had left for us. She had done right well by us. Not only had she forgotten nothing we needed, but had stenciled careful instructions and even some advice on many of the boxes.

Near the signboard, lying by themselves, were two boxes. One was labeled TOOLS and the top was loosely nailed so we could pry it off. The other was labeled WEAPONS and had a further stencil: *Open immediately and always keep at hand.*

We opened both the boxes. In the weapons box, we found the newest type of planet-busters—a sort of shotgun deal, a general-purpose weapon that put out everything from bullets to a wide range of vibratory charges. In between these two extremes were a flame-thrower, acid, gas, poisoned darts, explosive warheads and knockout pellets. You merely twirled a dial to choose your ammunition. The guns were heavy

and awkward to handle and they were brutes to operate, but they were just the ticket for a planet where you never knew what you might run into next.

We turned our attention to the rest of the stuff and started to get it sorted out. There were boxes of protein and carbohydrate foods. There were cartons of vitamins and minerals. There was clothing and a tent, lanterns and dishes — all the stuff you'd need on a high-priced camping trip.

Lulu hadn't forgotten a single item.

"She had it all planned out," said Jimmy bitterly. "She spent a long time making this stuff. She had to synthesize every bit of it. All she needed then was to find a planet where a man could live. And that took some doing."

"It was tougher than you think," I added. "Not only a planet where a man could live, but one that smelled like Earth and looked and felt like Earth. Because, you see, we had to be encouraged to run away from her. If we hadn't, she couldn't have marooned us. She had the problem of her conscience and —"

Ben spat viciously. "Marooned!" he said. "Marooned by a love-sick robot!"

"Maybe not entirely robot." I told them about the old maid I had conjured up and they hooted

at me and that made us all feel better.

But Ben admitted that my idea needn't be entirely crazy. "She was twenty years in building and a lot of funny stuff must have gone into her."

Dawn was breaking and now, for the first time, we really saw the land. It was a pleasant place, as pleasant as any man might wish. But we failed to appreciate it much.

The sea was so blue that it made you think of a blue-eyed girl and the beach ran white and straight and, from the beach, the land ran back into rolling hills with the faint whiteness of distant mountains frosting the horizon. And to the west was the forest.

JIMMY and I went down to the beach to collect some driftwood for a fire while Ben made ready to get breakfast.

We had our arms full of wood and were starting back when something came charging over the hill and down upon the camp. It was about rhinoceros size and shaped somewhat like a beetle and it shone dully in the morning light. It made no sound, but it was traveling fast and it looked like something hard to stop.

And, of course, we'd left our guns behind.

I dropped my wood and yelled at Ben and started running up the slope. Ben had already seen the charging monster and had grabbed a rifle. The beast swerved straight for him and he brought up his gun. There was a flash of fire and then the bright gout of an exploding warhead and, for an instant, the scene was fogged with smoke and shrieking bits of metal and flying dust.

It was exactly as if one had been watching a film and the film had jumped. One moment there was the blaze of fire; then the thing had plunged past Ben and was coming down the slope of the beach, heading for Jimmy and myself.

"Scatter!" I yelled at Jimmy and didn't think till later how silly it must have sounded to yell for just the two of us to scatter.

But it wasn't any time or place for fine points of semantics and, anyhow, Jimmy caught on to what I meant. He went one way down the beach and I went the other and the monster wheeled around, hesitating for a moment, apparently to decide which one of us to take.

And, as you might have known, he took after me.

I figured I was a goner. That beach was just plain naked, with not a place to hide, and I knew I had no chance at all of out-

running my pursuer. I might be able to dodge a time or two, but even so, that thing was pretty shifty on the turns and I knew in the end I'd lose.

Out of the tail of my eye, I saw Ben running and sliding down the slope to cut off the beast. He yelled something at me, but I didn't catch the words.

Then the air shook with the blast of another exploding warhead and I sneaked a quick look back.

Ben was legging it up the slope and the thing was chasing him, so I spun around and sprinted for the camp. Jimmy, I saw, was almost there and I put on some extra speed. If we only could get three guns going, I felt sure we could make it.

Ben was running straight toward Lulu, apparently figuring that he could race around her bulk and elude the beast. I saw that his dash would be a nip-and-tuck affair.

Jimmy had reached the camp and grabbed a gun. He had it firing before he got it to his shoulder and little splashes of liquid were flying all over the running beast.

I TRIED to yell at Jimmy, but had no breath to do it—the damn fool was firing knockout pellets and they were hitting that

tough hide and bursting without penetrating.

Within arm's reach of Lulu, Ben stumbled. The gun flew from his hand. His body struck the ground doubled up and he rolled, trying to get under the curve of Lulu's side. The rhinoceros-thing lunged forward viciously.

Then it happened—quicker than the eye could follow, much quicker than it can be told.

Lulu grew an arm, a long, rope-like tentacle that snaked out of the top of her. It lashed downward and had the beast about the middle and was lifting him.

I stopped dead still and watched. The instant of the lifting of the beast seemed to stretch out into long minutes as my mind scrambled at top speed to see what kind of thing it was. The first thing I saw was that it had wheels instead of feet.

The dull luster of the hide could be nothing but metal and I could see the dents where the warheads had exploded. Drops of liquid spotted the hide—what was left of the knockout drops Jimmy had been firing.

Lulu raised the monster high above the ground and began swinging it around and around. It went so fast, it was just a blur. Then she let go and it sailed out above the sea. It went tumbling end over end in an awkward arc

and plunged into the water. When it hit, it raised a pretty geyser.

Ben picked himself up and got his gun. Jimmy came over and I walked up to Lulu. The three of us stood and looked out to sea, watching the spot where the creature had kerplunked.



Finally Ben turned around and rapped on Lulu's side with his rifle barrel.

"Thanks a heap," he said.

Lulu grew another tentacle, shorter this time, and there was a face on it. It had a lenslike eye and an audio and speaker.

"Go chase yourselves," Lulu remarked.

"What's eating you?" I asked.

"Men!" she spat, and pulled her face in again.

We rapped on her three or four times more, but there was no reply. Lulu was sulking.



So Jimmy and I started down to pick up the wood that we had dropped. We had just gotten it picked up when Ben let out a yelp from up by the camp and we spun around. There was our rhinoceros friend wheeling out of the water.

We dropped the wood and lit out for camp, but there was no need to hurry. Our boy wasn't having any more just then. He made a wide circle to the east of us and raced back into the bills.

We cooked breakfast and ate it and kept our guns handy, because where there was one critter, there were liable to be more. We didn't see the sense in taking chances.

WE TALKED about our visitor and since we had to call it something, we named it Elmer. For no particular reason, that seemed appropriate.

"Did you see those wheels?" asked Ben, and the two of us agreed that we'd seen them. Ben seemed to be relieved. "I thought I was seeing things," he explained.

But there could be no doubt about the wheels. All of us had noticed them and there were the tracks to prove it — wheel tracks running plain and clear along the sandy beach.

But we were somewhat puzzled when it came to determining just what Elmer was. The wheels

spelled out machine, but there were a lot of other things that didn't — mannerisms that were distinctly lifelike, such as the momentary hesitation before it decided which one of us to charge, Jimmy or myself, or the vicious lunge at Ben when he lay upon the ground, or the caution it had shown in circling us when it came out of the sea.

But there were, as well, the wheels and the unmistakably metal hide and the dents made by exploding warheads that would have torn the biggest and toughest animal to shreds.

"A bit of both?" suggested Ben. "Basically machine, but with some life in it, too, like the old-maid brain you dreamed up for Lulu?"

Sure, it could be that. It could be almost anything.

"Silicate life?" offered Jimmy.

"That's not silicate," Ben declared. "That's metal. Silicate, any form of it, would have turned to dust under a direct rocket hit. Besides, we know what silicate life is like. One species of it was found years ago out on Thelma V."

"It isn't basically life," I said. "Life wouldn't evolve wheels. Wheels are bum inventions so far as locomotion is concerned, except where you have special conditions. Life might be involved, but only as Ben says — as a de-

liberate, engineered combining of machine and life."

"And that means intelligence," said Ben.

We sat there around the fire, shaken at the thought of it. In many years of searching, only a handful of intelligent races had been found and the level of intelligence, in general, was not too impressive. Certainly nothing of the order that would be necessary to build something like Elmer.

So far, Man was top dog in the discovered universe. Nothing had been found to match him in the use of brain-power.

And here, by utter accident, we'd been dumped upon a planet where there seemed to be some evidence of an intelligence that would equal Man — if not, indeed, surpass him.

"THERE'S one thing that has been bothering me," said Ben. "Why didn't Lulu check this place before she landed here? She intended to maroon us, that's why. She meant to dump us here and leave. And yet presumably she's still bound by the precept that a robot cannot harm a human. And if she'd followed that law, it would have meant that she was compelled — completely and absolutely compelled — to make certain, before she marooned us,

that there was nothing here to harm us."

"Maybe she slipped a little," guessed Jimmy.

"Not Lulu," said Ben. "Not with that Swiss-watch brain of hers."

"You know what I think?" I said. "I think Lulu has evolved. In her, we have a brand-new kind of robot. They pumped too much humanity into her —"

"She had to have the human viewpoint," Jimmy pointed out, "or she couldn't do her job."

"The point," I said, "is that when you make a robot as human as Lulu, you no longer have a robot. You have something else. Not quite human, not entirely robot, but something in between. A new kind of a sort of life you can't be certain of. One you have to watch."

"I wonder if she's still sulking," Ben wondered.

"Of course she is," I said.

"We ought to go over and kick her in the pants and snap her out of it."

"Leave her alone," I ordered sharply. "The only thing is to ignore her. As long as she gets attention, she'll keep on sulking."

So we left her alone. It was the only thing we could do.

I took the dishes down to the sea to wash them, but this time I took my gun along. Jimmy went down to the woods to see if he

could find a spring. The half dozen tins of water that Lulu had provided for us wouldn't last forever and we couldn't be sure she'd shell out more when those were gone.

She hadn't forgotten us, though, hadn't shut us out of her life entirely. She had fixed Elmer's wagon when he got too gay. I took a lot of comfort out of reflecting that, when the cards were down, she had backed us up. There still were grounds for hope, I told myself, that we could work out some sort of deal with her.

I squatted down by a pool of water in the sand, and as I washed the dishes, I did some thinking about the realignment which would become necessary once all robots were like Lulu. I could envision a Bill of Robotic Rights and special laws for robots and robotic lobbies, and after I'd thought of it for a while, it became mighty complicated.

BACK at the camp, Ben had been setting up the tent, and when I came back, I helped him.

"You know," Ben said, "the more I think about it, the more I believe I was right when I said that the reason Lulu couldn't leave was because we showed up. It's only logical that she can't up and leave when we're standing right in front of her and remind-

ing her of her responsibility."

"You getting around to saying that one of us has to stay close by her all the time?" I asked.

"That's the general idea."

I didn't argue with him. There was nothing to argue about, nothing to believe or disbelieve. But we were in no position to be making any boners.

After we had the tent up, Ben said to me, "If you don't mind, I'll take a little walk-around back in the hills."

"Watch out for Elmer," I warned him.

"He won't bother us. Lulu took the starch out of him."

He picked up his gun and left.

I pattered around the camp, putting things in order. Everything was peaceful. The beach shone in the sun and the sea was still and beautiful. There were a few birds flying, but no other sign of life. Lulu kept on sulking.

Jimmy came back. He had found a spring and brought along a pail of water. He started rummaging around in the supplies.

"What you looking for?" I asked.

"Paper and a pencil. Lulu would have thought of them."

I grunted at the idea, but he was right. Damned if Lulu hadn't fixed him up with a ream of paper and a box of pencils.

He settled down against a pile

of boxes and began to write a poem.

Ben returned shortly after mid-day. I could see he was excited, but I didn't push him any.

"Jimmy stumbled on a spring," I said. "The pail is over there."

He had a drink, then sat down in the shade of a pile of boxes.

"I found it," he said triumphantly.

"I didn't know you were hunting anything."

He looked up at me and grinned a bit crookedly. "Someone manufactured Elmer."

"So you went out and found them. Just like walking down a street. Just like —"

He shook his head. "Seems we're too late. Some several thousand years too late, if not a good deal longer. I found a few ruins and a valley heaped with tumuli that must be ruin mounds. And some caves in a limestone bluff beyond the valley."

HE GOT up and walked over to the pail and had another drink.

"I couldn't get too close," he said. "Elmer is on guard." He took off his hat and wiped his shirt sleeve across his face. "He's patrolling up and down, the way a sentry walks a post. You can see the paths he's worn through all the years of standing guard."

"So that's why he took us on," I said. "We are trespassers."

"I suppose that's it," said Ben.

That evening, we talked it over and decided we'd have to post a watch on Elmer so we could learn his habits and timetable, if any. Because it was important that we try to find out what we could about the buried ruins of the place that Elmer guarded.

For the first time, Man had stumbled on a high civilization, but had come too late and, because of Lulu's sulking, too poorly equipped to do much with what little there was left.

Getting somewhat sore the more I thought about it, I went over to Lulu and kicked her good and solid to attract her attention. But she paid me no mind. I yelled at her and there was no answer. I told her what was cooking and that we needed her — that here was a job she simply had to do, just exactly the kind she had been built to do. She just sat there frigidly.

I went back and slouched down with the others at the fire. "She acts as if she might be dead."

Ben poked the fire together and it flamed a little higher. "I wonder if a robot could die. A highly sensitive job like Lulu."

"Of a broken heart," said Jimmy pityingly.

"You and your poetic notions!"

I raged at him. "Always mooning around. Always spouting words. If it hadn't been for that damned verse of yours—"

"Cut it out," Ben said.

I looked at his face across the fire, with flame shadows running on it, and I cut it out. After all, I admitted to myself, I might be wrong. Jimmy couldn't help being a lousy poet.

I sat there looking at the fire, wondering if Lulu might be dead. I knew she wasn't, of course. She was just being nasty. She had fixed our clock for us and she had fixed it good. Now she was watching us sweat before she made her play, whatever it was.

In the morning, we set up our watch on Elmer and we kept it up day after day. One of us would go out to the ridgetop three miles or so from camp and settle down with our only field glass. We'd stare for several hours. Then someone else would come out and relieve the watcher and that way, for ten days or more, we had Elmer under observation during all the daylight hours.

We didn't learn much. He operated on a schedule and it was the kind that seemed to leave no loopholes for anyone to sneak into the valley he guarded—although probably none of us would have known what to do if we had sneaked in.

ELMER had a regular beat. He used some of the mounds for observation posts and he came to each one about every fifteen minutes. The more we watched him, the more we became convinced that he had the situation well in hand. No one would monkey around with that buried city as long as he was there.

I think that after the second day or so, he found out we were watching. He got a little nervous, and when he mounted his observation mounds, he'd stand and look in our direction longer than in any other. Once, while I was on guard, he began what looked to be a charge and I was just getting ready to light out of there when he broke off and went back to his regular rounds.

Other than watching Elmer, we took things easy. We swam in the sea and fished, taking our lives in our hands when we cooked and ate each new kind, but luck was with us and we got no poisonous ones. We wouldn't have eaten the fish at all except that we figured we should piece out our food supplies as best we could. They wouldn't last forever and we had no guarantee that Lulu would give more handouts once the last was gone. If she didn't we'd have to face the problem of making our own way.

Ben got to worrying about whether there were seasons on the planet. He convinced himself there were and went off into the woods to find a place where we might build a cabin.

"Can't live out on the beach in a tent when it gets cold," he said.

But he couldn't get either Jimmy or me too stirred up about the possibility. I had it all doped out that, sooner or later, Lulu would end her sulking and we could get down to business. And Jimmy was deep into the crudest bunch of junk you ever heard that he called a saga. Maybe it was a saga. Damned if I know. I'm ignorant on sagas.

He called it "The Death of Lulu" and he filled page after page with the purest drivel about what a swell machine she was and how, despite its being metal, her heart beat with snow-white innocence. It wouldn't have been so bad if he had allowed us to ignore it, but he insisted on reading that tripe to us each evening after supper.

I stood it as long as I could, but one evening I blew my top. Ben stood up for Jimmy, but when I threatened to take my third of the supplies and set up a camp of my own, out of ear-shot, Ben gave in and came over to my side of the argument. Between the two of us, we ruled out

any more recitals. Jimmy took it hard, but he was outnumbered.

After that first ten days or so, we watched Elmer only off and on, but we must have had him nervous, for during the night we'd sometimes hear his wheels, and in the morning we'd find tracks. We figured that he was spying out the camp, trying to size us up the same way we'd done with him. He didn't make any passes at us and we didn't bother him—we were just a lot more wakeful and alert on our night watches. Even Jimmy managed to stay awake while he was standing guard.

There was a funny thing about it, though. One would have imagined that Elmer would have stayed away from Lulu after the clobbering she gave him. But there were mornings when we found his tracks running up close behind her, then angling sharply off.

We got it doped out that he sneaked up and hid behind her, so he could watch the camp close up, peeking around at us from his position behind that sulking hulk.

BEN kept arguing about building winter quarters until he had me almost convinced that it was something we should do. So one day I teamed up with him, leaving Jimmy at the camp. We

set off, carrying an axe and a saw and our guns.

Ben had picked a fine site for our cabin, that much I'll say. It wasn't far from the spring, and it was tucked away in a sort of pocket where we'd be protected from the wind, and there were a lot of trees nearby so we wouldn't have far to drag our timbers or haul our winter wood.

I still wasn't convinced there would be any winter. I was fairly sure that even if there were, we wouldn't have to stay that long. One of these days, we'd be able to arrive at some sort of compromise with Lulu. But Ben was worried and I knew it would make him happier if he could get a start at building. And there was nothing else for any of us to do. Building a cabin, I consoled myself, would be better than just sitting.

We leaned our guns against a tree and began to work. We had one tree down and sawed into lengths and were starting on the second tree when I heard the brush snap behind me.

I straightened up from the saw to look, and there was Elmer, tearing down the hill at us.

There wasn't any time to grab our guns. There was no time to run. There was no time for anything at all.

I yelled and made a leap for

the tree behind me and pulled myself up. I felt the wind as Elmer whizzed by beneath me.

Ben had jumped to one side and, as Elmer went pounding past, heaved the axe at him. It was a honey of a throw. The axe caught Elmer in his metal side





and the handle splintered into pieces.

Elmer spun around. Ben tried to reach the gun, but he didn't have the time. He took to a tree and shinnied up it like a cat. He got up to the first big branch and straddled it.

"You all right?" he yelled at me.

"Great," I said.

Elmer was standing between the two trees, swinging his massive head back and forth, as if deciding which one of us to take.

We clung there, watching him.

He had waited, I reasoned, until he could get between us and Lulu — then he had tackled us. And if that was the case, then this business of his hiding behind Lulu so he could spy on us seemed very queer indeed.

FINALLY Elmer wheeled around and rolled over to my tree. He squared off and took a chopping bite at it with his metal jaws. Splinters flew and the tree shivered. I got a tighter grip and looked down the trunk. Elmer was no great shakes as a chopper, but if he kept at it long enough, he'd get that tree chewed off.

I climbed up a little higher, where there were more branches and where I could wedge myself a little tighter so I couldn't be shaken out.

I got myself fixed fairly comfortable to see how Ben was getting on and I got quite a shock. He wasn't in his tree. I looked around for him and then back at the tree again, and I saw that he was sneaking down it as quietly as he could, like a hunted squirrel, keeping the trunk of the tree between himself and Elmer.

I watched him breathlessly, ready to shout out a warning if Elmer should spot him, but Elmer was too busy chopping at my tree to notice anything.

Ben reached the ground and made a dash for the guns. He grabbed both of them and ducked behind another tree. He opened up on Elmer at short range. From where I crouched, I could hear the warheads slamming into Elmer. The explosions rocked everything so much that I had to grab the tree and hang on with all my might. A couple of pieces of flying metal ripped into the tree just underneath me, and other pieces went flying through the branches, and the air was full of spinning leaves and flying shredded wood, but I was untouched.

It must have been a horrible surprise for Elmer. At the first explosion, he took a jump of about fifteen feet and bolted up the hill like a cat with a stepped-on tail. I could see a lot of new dents in his shining hide. A big hunk of

metal had been gouged out of one of his wheels and he rocked slightly as he went, and he was going so fast that he couldn't dodge and ran head-on into a tree. The impact sent him skidding back a dozen feet or so. As he slid back, Ben poured another salvo into him and he seemed to become considerably lop-sided, but he recovered himself and made it over the hilltop and out of sight.

Ben came out from behind his tree and shouted at me, "All right, you can come down now."

But when I tried to get down, I found that I was trapped. My left foot had become wedged in a crotch between the tree trunk and a good-sized limb and I couldn't pull it loose, no matter how I tried.

"What's the matter?" asked Ben. "Do you like it up there?"

I told him what was wrong.

"All right," he said, disgusted. "I'll come up and cut you loose."

He hunted for the axe and found it and, of course, it was no use. He'd smashed the handle when he threw it at Elmer.

HE STOOD there, holding the axe in his hands, and delivered an oration on the lowdown meanness of fate.

Then he threw the axe down and climbed my tree. He squeezed

past me out onto the limb.

"I'll climb out on it and bend it down," he explained. "Maybe then you can get loose."

He crawled out on the branch a way, but it was a shaky trick. A couple of times, he almost fell.

"You're sure you can't get your foot out now?" he asked anxiously.

I tried and said I couldn't.

So he gave up the crawling idea and let his body down and hung on by his hands, shifting out along the branch hand over hand.

The branch bent toward the ground as he inched along it and it seemed to me my boot wasn't gripped as tightly as it had been. I tried again and found I could move it some, but I still couldn't pull it loose.

Just then there was a terrible crashing in the brush. Ben let out a yell and dropped to the ground and scurried for a gun.

The branch whipped back and caught my foot just as I had managed to move it a little and this time caught it at a slightly different angle, twisting it, and I let out a howl of pain.

Down on the ground, Ben lifted his gun and swung around to face the crashing in the brush and suddenly who should come busting out of all that racket but Jimmy, racing to the rescue.

"You guys in trouble?" he shouted. "I heard shooting."

Ben's face was three shades whiter than the purest chalk as he lowered his gun. "You fool! I almost let you have it!"

"There was all this shooting," Jimmy panted. "I came as quickly as I could."

"And left Lulu alone!"

"But I thought you guys—"

"Now we're sunk for sure," groaned Ben. "You know all that makes Lulu stick around is one of us being there."

We didn't know any such thing, of course. It was just the only reason we could think of why she didn't up and leave. But Ben was somewhat overwrought. He'd had a trying day.

"You get back there!" he yelled at Jimmy. "Get back as fast as your legs will let you. Maybe you can catch her before she gets away."

Which was foolishness, because if Lulu meant to leave, she'd have lifted out of there as soon as Jimmy had disappeared. But Jimmy didn't say a word. He just turned around and went crashing back. For a long time after he had left, I could hear him blundering through the woods.

BEN climbed my tree again, muttering, "Just a pack of wooden-headed jerks. Can't do anything right. Running off and leaving Lulu. Getting trapped up

in a tree. You would think, by God, that they could learn to watch out for themselves . . ."

He said a good deal more than that.

I didn't answer back. I didn't want to get into any argument.

My foot was hurting something fierce and the only thing I wanted him to do was get me out of there.

He climbed out on the branch again and I got my foot loose. While Ben dropped to the ground, I climbed down the tree. My foot hurt pretty bad and seemed to be swelling some, but I could hobble on it.

He didn't wait for me. He grabbed his gun and made off rapidly for camp.

I tried to hurry, but it was no use, so I took it easy.

When I got to the edge of the woods, I saw that Lulu still was there and all Ben's hell-raising had been over absolutely nothing. There are some guys like that.

When I reached camp, Jimmy pulled off my boot while I clawed at the ground. Then he heated a pail of water for me to soak the foot in and rummaged around in the medicine chest and found some goo that he smeared on the foot. Personally, I don't think he knew what he was doing. But I'll say this for the kid — he had some kindness in him.

All this time, Ben was fuming around about a funny thing that had attracted his attention. When we had left camp, the area around Lulu had been all tracked up with our tracks and Elmer's tracks, but now it was swept clean. It looked exactly as if someone had taken a broom and had swept out all the tracks. It surely was a funny business, but Ben was making too much of it. The important thing was that Lulu still was there. As long as she stuck around, there was a chance we could work out some agreement with her. Once she left, we were marooned for good.

Jimmy fixed something to eat, and after we had eaten, Ben said to us, "I think I'll go out and see how Elmer's getting on."

I, for one, had seen enough of Elmer to last a lifetime and Jimmy wasn't interested. Said he wanted to work on his saga.

So Ben took a rifle and set out alone, back into the hills.

My foot hurt me quite a bit and I got myself comfortable and tried to do some thinking, but I tried so hard that I put myself to sleep.

It was late in the afternoon when I awoke. Jimmy was getting nervous.

"Ben hasn't shown up," he said. "I wonder if something's happened to him."

I DIDN'T like it, either, but we decided to wait a while before going out to hunt Ben. After all, he wasn't in the best of humor and he might have been considerably upset if we'd gone out to rescue him.

He finally showed up just before dusk, tuckered out and a little flabbergasted. He leaned his rifle against a box and sat down. He found a cup and reached for the coffee pot.

"Elmer's gone," he said. "I spent all afternoon trying to find him. Not a sign of him anywhere."

My first reaction was that it was just fine. Then I realized that the safest thing would be to know where Elmer was, so we could keep an eye on him. And suddenly I had a horrible hunch that I knew where Elmer was.

"I didn't actually go down into the valley," said Ben, "but I walked around and glassed it from every angle."

"He might be in one of the caves," Jimmy said.

"Maybe so," said Ben.

We did a lot of speculating on what might have happened to Elmer. Jimmy held out for his having holed up in one of the caves. Ben was inclined to think he might have cleared out of the country. I didn't say what I thought. It was too fantastic.

I volunteered for the first

watch, saying that I couldn't sleep with my foot, anyhow, and after the two of them were asleep, I walked over to Lulu and rapped on the hide. I didn't expect anything to happen. I figured she would keep on sulking.

But she put out a tentacle and grew a face on it—a lens, an audio and speaker.

"It was nice of you," I said, "not to run away and leave us."

Lulu swore. It was the first and only time I have ever heard her use such language.

"How could I leave?" she asked when she at last turned printable. "Of all the dirty human tricks! I'd have been gone long ago if it weren't for—"

"What dirty trick?"

"As if you didn't know. A built-in block that won't let me move unless there's one of you detestable humans inside me."

"I didn't know," I said.

"Don't try to pass the buck," she snapped. "It's a dirty human trick and you're a dirty human and you're just as responsible as all the rest of them. But it doesn't make any difference any more, because I've found myself. I am finally content. I know what I was meant for. I have—"

"Lulu," I asked her, straight out, "are you shacking up with Elmer?"

"That's a vulgar way to say it,"

Lulu told me heatedly. "It's the nasty human way. Elmer is a scholar and a gentleman and his loyalty to his ancient, long-dead masters is a touching thing no human could be capable of. He has been badly treated and I shall make it up to him. All he wanted from you was the phosphate in your bones—"

"The phosphate in our bones!" I yelled.

"WHY, certainly," said Lulu. "Poor Elmer has such a hard time finding any phosphate. He got it at first from animals that he caught, but now all the animals are gone. There are birds, of course, but birds are hard to catch. And you had such nice, big bones—"

"That's a fine thing for you to say," I bawled her out sternly. "You were built by humans and humans educated you and—"

"Still I'm a machine," said Lulu, "and I am closer to Elmer than I am to you. You humans can't get it through your heads that there might be a legitimate set of non-human values. You are horrified that Elmer wanted the phosphate in your bones, but if there were a metal in Elmer that you needed, you'd break him up to get it without a second thought. You wouldn't even consider that you might be wrong. You'd think it

an imposition if Elmer should object. That's the trouble with you and your human race. I've had enough. I have what I want. I am content to stay here. I've found the great love of my life. And for all I care, your pals and you can rot."

She pulled in her face and I didn't rap to try to get her to talk any more. I figured there wasn't any use. She had made it about as plain as anyone could wish.

I walked back to the camp and woke Ben and Jimmy. I told them about my hunch and about the talk with Lulu. We were pretty glum, because we were all washed up.

Up till now, there had always been the chance that we could make a deal with Lulu. I had felt all along that we needn't worry too much—that Lulu was more alone than we were and that eventually she would have to be reasonable. But now Lulu was not alone and she no longer needed us. And she still was sore at us—and not just at us, but at the whole human race.

And the worst of it was that this was no sudden whim. It had been going on for days. Elmer hadn't been really watching us when he'd hung around at night. He'd come to neck with Lulu. And undoubtedly the two of them had planned Elmer's attack on

Ben and me, knowing that Jimmy would go loping to the rescue, leaving the coast clear so that Elmer could rush back and Lulu could take him in. And once it had been accomplished, Lulu had put out a tentacle and swept the tracks away so we wouldn't know that Elmer was inside.

"So she jilted us," said Ben.

"No worse than we did to her," Jimmy reminded him.

"But what did she expect? A man can't love a robot."

"Evidently," I said, "a robot can love a robot. And that's a new one to paste into the book."

"Lulu's crazy," Ben declared.

In all this great romance of Lulu's, it seemed to me there was a certain fake note. Why should Lulu and Elmer be sneaky about their love? Lulu could have opened the port any time she wanted and Elmer could have scampered up the ramp right before our eyes. But they hadn't done that. They had planned and plotted. They had practically eloped.

I WONDERED if, on Lulu's part, it might be the mark of shame. Was she ashamed of Elmer—ashamed that she had fallen for him? Much as she might deny it, perhaps she nursed the smug snobbery of the human race.

Or was I only thinking this to save my own smug snobbery, simply building up a defense mechanism against being forced to admit, now or in some future time, that there might be other values than the ones evolved by humans? For in us all, I knew, lingered that reluctance to recognize that our way was not necessarily best, that the human viewpoint might not be the universal viewpoint to which all other life must eventually conform.

Ben made a pot of coffee, and while we sat around and drank it, we said some bitter things of Lulu. I don't regret anything we said, for she had it coming to her. She'd played us a nasty trick.

We finally rolled back into our blankets and didn't bother standing guard. With Elmer out of circulation, there was no need.

The next morning, my foot was still sore, so I stayed behind while Ben and Jimmy went out to explore the valley that held the ruined city. Meantime, I hobbled out and walked all around Lulu, looking her over. There was no way I could see that a man might bust into her. The port itself was machined so closely that you had to get real close to see the tiny hairline where it fitted into her side.

Even if we could bust into her, I wondered, could we take control

of her? There were the emergencies, of course, but I wasn't too sure just how much use they were. They certainly hadn't bothered Lulu much when she'd got that crazy notion of eloping with us. Then she'd simply jammed them and had left us helpless.

And if we broke into Lulu, we'd come to grips with Elmer, and Elmer was just the kind of beast I had no hankering to come to grips with.

So I went back to camp and puttered around, thinking that now we'd really have to begin to lay some plans about how to get along. We'd have to build that cabin and work up a food supply and do the best we could to get along on our own. For I was fairly certain that we could expect no help from Lulu.

Ben and Jimmy came back in the afternoon and their eyes were shining with excitement. They spread out a blanket and emptied their pockets of the most incredible things any man has ever laid eyes on.

DON'T expect me to describe that stuff. There's no point in trying to. What is the sense of saying that a certain item was like a metal chain and that it was yellow? There is no way to get across the feel of it as it slid through one's fingers or the tinkle

of it as it moved or the blazing color that was a sort of *living* yellow. It is very much like saying that a famous painting is square and flat and blue, with some green and red.

The chain was only a part of it. There were a lot of other doodads and each one of them was the sort of thing to snatch your breath away.

Ben shrugged at the question in my eyes. "Don't ask me. It's only some stuff we picked up. The caves are full of it. Stuff like this and a whole lot more. We just picked up one thing here and another there—whatever was pocket-size and happened to catch our eye. Trinkets. Samples. I don't know."

Like jackdaws, I thought. Or pack-rats. Grabbing a thing that shone or had a certain shape or a certain texture—taking it because it was pretty, not knowing what its use might be or if, in fact, it had any use at all.

"Those caves may have been storehouses," said Ben. "They're jammed with all sorts of things—not much of any one thing, apparently. All different, as if these aliens had set up a trading post and had their merchandise on display. There seems to be a sort of curtain in front of each of the caves. You can see a shimmer and hear a hissing, but you can't

feel a thing when you step through it. And behind that curtain, all the junk they left is as clean and bright and new as the day they left it."

I looked at the articles spread on the blanket. It was hard to keep your hands off them, for they felt good in your hands and were pleasing to the eye and one seemed to get a sense of warmth and richness just by handling them.

"Something happened to those folks," said Jimmy. "They knew it was going to happen, so they took all this stuff and laid it out — all the many things they had made, all the things they'd used and loved. Because, you see, that way there always was a chance someone might come along someday and find it, so they and the culture they had fashioned would not be entirely lost."

It was exactly the kind of silly, sentimental drivel you could expect from a glassy-eyed romantic like Jimmy.

But for whatever reason the artifacts of that vanished race had gotten in the caves, we were the ones who'd found them and here once again they'd run into a dead end. Even if we had been equipped to puzzle out their use, even if we had been able to ferret out the basic principles of that long-dead culture, it still would be

a useless business. We were not going anywhere; we wouldn't be passing on the knowledge. We'd live out our lives here on this planet, and when the last of us had died, the ancient silence and the old uncaring would close down once again.

We weren't going anywhere and neither was Lulu. It was a double dead end.

IT WAS too bad, I thought, for Earth could use the knowledge and the insight that could be wrested from those caves and from the mounds. And not more than a hundred feet from where we sat lay the very tool that Earth had spent twenty years in building to dig out that specific kind of knowledge, should Man ever happen on it.

"It must be terrible," said Jimmy, "to realize that all the things and all the knowledge that you ever had, all the trying, all the praying, all the dreams and hopes, will be wiped out forever. That all of you and your way of life and your understanding of that life will simply disappear and no one will ever know."

"You said it, kid," I chipped in.

He stared at me with haunted, stricken eyes. "That may be why they did it."

Watching him, the tenseness of him, the suffering in his face, I

caught a glimpse of why he was a poet — why he had to be a poet. But even so, he still was an utter creep.

"Earth has to know about this," Ben said flatly.

"Sure," I agreed. "I'll run right over and let them know."

"Always the smart guy," Ben growled at me. "When are you going to cut out being bright and get down to business?"

"Like busting Lulu open, I suppose."

"That's right. We have to get back somehow and Lulu's the only way to get there."

"It might surprise you, Buster, but I thought of all that before you. I went out today and looked Lulu over. If you can figure how to bust into her, you've a better brain than I have."

"Tools," said Ben. "If we only had —"

"We have. An axe without a handle, a hammer and a saw. A small pinch-bar, a plane, a draw-shave —"

"We might make some tools."

"Find the ore and smelt it and —"

"I was thinking of those caves," said Ben. "There might be tools in there."

I wasn't even interested. I knew it was impossible.

"We might find some explosive," Ben went on. "We might —"

"Look," I said, "what do you want to do — open Lulu up or blow her to bits? Anyhow, I don't think you can do a thing about it. Lulu is a self-maintaining robot, or have you forgotten? Bore a hole in her and she'll grow it shut. Go monkeying around too much and she'll grow a club and clout you on the head."

Ben's eyes blazed with fury and frustration. "Earth has to know! You understand that, don't you? Earth has got to know!"

"Sure," I said. "Absolutely."

In the morning, I thought, he'd come to his senses, see how impossible it was. And that was important. Before we began to lay any plans, it was necessary that we realize what we were up against. That way, you conserve a lot of energy and miss a lot of lumps.

But, come morning, he still had that crazy light of frustration in his eyes and he was filled with a determination that was based on nothing more than downright desperation.

AFTER breakfast, Jimmy said he wasn't going with us.

"For God's sake, why not?" demanded Ben.

"I'm way behind on my writing," Jimmy told him, dead-pan. "I'm still working on that saga."

Ben wanted to argue with him,

but I cut him off disgustedly.

"Let us go," I said. "He's no use, anyhow."

Which was the solemn truth.

So the two of us went out to the caves. It was the first time I had seen them and they were something to see. There were a dozen of them and all of them were crammed. I got dizzy just walking up and down, looking at all the gadgets and the thingumbobs and dofunnies, not knowing, of course, what any of them were. It was maddening enough just to look at them; it was plain torture trying to figure out what use they might be put to. But Ben was plain hell-bent on trying to figure out because he'd picked up the stubborn conviction that we could find a gadget that would help us get the best of Lulu.

We worked all day and I was dog-tired at the end of it. Not once in the entire day had we found anything that made any sense at all. I wonder if you can imagine how it felt to stand there, surrounded by all those devices, knowing there were things within your reach that, rightly used, could open up entirely new avenues for human thoughts and technique and imagination. And yet you stood there powerless — an alien illiterate.

But there was no stopping Ben. We went out again the next day

and the day after that and we kept on going out. On the second day, we found a dojigger that was just fine for opening cans, although I'm fairly sure that was not at all what it was designed for. And on the following day, we finally puzzled out how another piece of equipment could be used for digging slanted postholes and, I ask you, who in their right mind would be wanting slanted post holes?

We got nowhere, but we kept on going out and I sensed that Ben had no more hope than I had, but that he still kept at it because it was the one remaining fingerhold he had on sanity.

I don't think that for one moment he considered the source or significance of that heritage we'd found. To him, it became no more than a junkyard through which we searched frantically to find one unrecognizable piece of scrap that we might improvise into something that would serve our purpose.

AS THE days went on, the valley and its mounds, the caves and their residue of a vanished culture seized upon my imagination, and it seemed to me that, in some mysterious manner, I grew closer to that extinct race and sensed at once its greatness and its tragedy. And the feeling grew

as well that this frantic hunt of ours bordered on sacrilege and callous profanation of the dead.

Jimmy had not gone out with us a single day. He'd sit hunched over his ream of paper and he scribbled and revised and crossed out words and put in others. He'd get up and walk around in circles or pace back and forth and mumble to himself, then go back and write some more. He scarcely ate and he wouldn't talk and he only slept a little. He was the very portrait of a Young Man in the Throes of Creation.

I got curious about it, wondering if, with all this agony and sweat, he might be at last writing something that was worth the effort. So, when he wasn't looking, I sneaked out a page of it.

It was even worse than the goo he had written before.

That night I lay awake and looked up at the unfamiliar stars and surrendered myself to loneliness. Only, once I had surrendered, I found that I was not so lonely as I might have been—that somehow I had drawn comfort and perhaps even understanding from the muteness of the ruin-mounds and the shining wonder of the trove.

Finally I dropped asleep.

I don't know what woke me. It might have been the wind or the sound of the waves breaking on

the beach or maybe the chillness of the night.

Then I heard it, a voice like a chant, solemn and sonorous, a throaty whisper in the dark.

I started up and propped myself on an elbow—and caught my breath at what I saw.

Jimmy was standing in front of Lulu, holding a flashlight in one hand, reading her his saga. His voice had a rolling quality, and despite the soggy words, there was a fascination in the tenor of his tone. It must have been so that the ancient Greeks read their Homer in the flare of torches before the next day's battle.

And Lulu was listening. She had a face hung out and the tentacle which supported it was twisted to one side, so that her audio would not miss a single syllable, just as a man might cup his ear.

LOOKING at that touching scene, I began to feel a little sorry about the way we'd treated Jimmy. We wouldn't listen to him and the poor devil had to read that tripe of his to someone. His soul hungered for appreciation and he'd got no appreciation out of either Ben or me. Merely writing was not enough for him; he must share it. He had to have an audience.

I put out a hand and shook Ben gently by the shoulder. He came storming up out of his blankets.

"What the hell is—"

"Sh-h-h!"

He drew in a whistling breath and dropped on one knee beside me.

Jimmy went on with his reading and Lulu, with her face cocked attentively, went on listening.

Part of the words came to us, wind-blown and fragmentary:

*"Wanderer of the far ways
between the two faces of
eternity,*

*True, forever, to the race that
forged her,
With the winds of alien space
blowing in her hair,*

*Wearing a circlet of stars as
her crown of glory . . ."*

Lulu wept. There was the shine of tears in that single, gleaming lens.

She grew another tentacle and there was a hand on the end of it and a handkerchief, a very white and lacy and extremely feminine hanky, was clutched within the hand.

She dabbed with the handkerchief at her dripping eye.

If she had had a nose, she undoubtedly would have blown it,

delicately, of course, and very ladylike.

"And you wrote it all for me?" she asked.

"All for you," said Jimmy. He was lying like a trooper. The only reason he was reading it to her was because he knew that Ben and I wouldn't listen to it.

"I've been so wrong," Lulu sighed.

She wiped her eye quite dry and briskly polished it.

"Just a second," she said, very businesslike. "There's something I must do."

We waited, scarcely breathing.

Slowly the port in Lulu's side came open. She grew a long, limber tentacle and reached inside the port and hauled Elmer out. She held him dangling.

"**Y**OU lout!" she stormed at Elmer. "I take you in and stuff you full of phosphates. I get your dents smoothed out and I polish you all bright. And then what? Do you write sagas for me? No, you grow fat and satisfied. There's no mark of greatness on you, no spark of imagination. You're nothing but a dumb machine!"

Elmer just dangled at the end of Lulu's tentacle, but his wheels were spinning furiously and I took that to mean that he was upset.

"Love!" proclaimed Lulu. "Love for the likes of us? We machines have better things to do—far better. There are the star-studded trails of space waiting for our tread, the bitter winds of foreverness blowing from the cloudbanks of eternity, the mountains of the great beyond . . ."

She went on for quite a while about the challenge of the farther galaxies, about wearing a coronet of stars, about the dust of shattered time paving the road that led into the ultimate nothingness, and all of it was lifted from what Jimmy called a saga.

Then, when she was all through, she hurled Elmer down the beach and he hit the sand and skidded straight into the water.

We didn't wait to see any more of it. We were off like sprinters. We hit the ramp full tilt and went up it in a leap and flung ourselves into our quarters.

Lulu slammed the port behind us.

"Welcome home," she said.

I walked over to Jimmy and held out my hand. "Great going, kid. You got Longfellow backed clear off the map."

Ben also shook his hand. "It was a masterpiece."

"And now," said Lulu, "we'll be on our way."

"Our way!" yelled Ben. "We

can't leave this planet. Not right away, at least. There's that city out there. We can't go until—"

"Phooey on the city," Lulu said. "Phooey on the data. We are off star-wandering. We are searching out the depths of silence. We are racing down the corridors of space with thunder in our brain—the everlasting thunder of a dread eternity."

We turned and looked at Jimmy.

"Every word of it," I said. "Every single word of it out of that muck he wrote."

Ben took a quick step forward and grabbed Jimmy by his shirt front.

"Don't you feel the urge," Ben asked him, "don't you feel a mighty impulse to write a lengthy ode to home—its comfort and its glory and all the other clichés?"

Jimmy's teeth were chattering just a little.

"Lulu is a sucker," Ben said, "for everything you write."

I lifted a fist and let Jimmy smell of it.

"You better make it good," I warned him. "You better write like you never wrote before."

"But keep it sloppy," Ben said. "That's the way Lulu likes it."

Jimmy sat down on the floor and began writing desperately.

—CLIFFORD D. SIMAK

PRIME DIFFERENCE

By ALAN E. NOURSE

*Being two men rolled out of
one would solve my problems
— but which one would I be?*

Illustrated by SCHOENHEER

I SUPPOSE that every guy reaches a point once in his lifetime when he gets one hundred and forty per cent fed up with his wife.

Understand now — I've got nothing against marriage or anything like that. Marriage is great. It's a good old red-blooded American Institution. Except that it's got one defect in it big enough to throw a cat through, especially

when you happen to be married to a woman like Marge —

It's so permanent.

Oh, I'd have divorced Marge in a minute if we'd been living in the Blissful Fifties — but with the Family Solidarity Amendment of 1968, and all the divorce taxes we have these days since the women got their teeth into politics, to say nothing of the Aggrieved Spouse Compensation Act, I'd have been

a pauper for the rest of my life if I'd tried it. That's aside from the social repercussions involved.

You can't really blame me for looking for another way out. But a man has to be desperate to try to buy himself an Ego Prime.

So, all right, I was desperate. I'd spent eight years trying to keep Marge happy, which was exactly seven and a half years too long.

Marge was a dream to look at, with her tawny hair and her sulky eyes and a shape that could set your teeth chattering—but that was where the dream stopped.

She had a tongue like a #10 wood rasp and a list of grievances long enough to paper the bedroom wall. When she wasn't complaining, she was crying, and when she wasn't crying, she was pointing out in chilling detail exactly where George Faircloth fell short as a model husband, which happened to be everywhere. Half of the time she had a "beastly headache" (for which I was personally responsible) and the other half she was sore about something, so ninety-nine per cent of the time we got along like a couple of tomcats in a packing case.

MAYBE we just weren't meant for each other. I don't know. I used to envy guys like Harry Folsom at the office. His wife is

no joy to live with either, but at least he could take a spin down to Rio once in a while with one of the stenographers and get away with it.

I knew better than to try. Marge was already so jealous that I couldn't even smile at the company receptionist without a twinge of guilt. Give Marge something real to howl about, and I'd be ready for the Rehab Center in a week.

But I'd underestimated Marge. She didn't need anything real, as I found out when Jerree came along.

Business was booming and the secretaries at the office got shuffled around from time to time. Since I had an executive-type job, I got an executive-type secretary. Her name was Jerree and she was gorgeous. As a matter of fact, she was better than gorgeous. She was the sort of secretary every businessman ought to have in his office. Not to do any work—just to sit there.

Jerree was tall and dark, and she could convey more without saying anything than I ever dreamed was possible. The first day she was there, she conveyed to me very clearly that if I cared to supply the opportunity, she'd be glad to supply the motive.

That night, I could tell that Marge had been thinking something over during the day. She let

me get the first bite of dinner halfway to my mouth, and then she said, "I hear you got a new secretary today."

I muttered something into my coffee cup and pretended not to hear.

Marge turned on her Accusing Look #7. "I also hear that she's five-foot-eight and tapes out at 38-25-36 and thinks you're handsome."

Marge had quite a spy system.

"She couldn't be much of a secretary," she added.

"She's a perfectly good secretary," I blurted, and kicked myself mentally. I should have known Marge's traps by then.

Marge exploded. I didn't get any supper, and she was still going strong at midnight. I tried to argue, but when Marge got going, there was no stopping her. I had my ultimatum, as far as Jeree was concerned.

Harry Folsom administered the coup de grace at coffee next morning. "What you need is an Ego Prime," he said with a grin. "Solve all your problems. I hear they work like a charm."

I set my coffee cup down. Bells were ringing in my ears. "Don't be ridiculous. It's against the law. Anyway, I wouldn't think of such a thing. It's — it's indecent."

Harry shrugged. "Just joking, old man, just joking. Still, it's fun to think about, eh? Freedom from

wife. Absolutely safe and harmless. Not even too expensive, if you've got the right contacts. And I've got a friend who knows a guy —"

Just then, Jeree walked past us and flashed me a big smile. I gripped my cup for dear life and still spilled coffee on my tie.

As I said, a guy gets fed up.

And maybe opportunity would only knock once.

And an Ego Prime would solve all my problems, as Harry had told me.

IT WAS completely illegal, of course. The wonder was that Ego Prime, Inc., ever got to put their product on the market at all, once the nation's housewives got wind of just what their product was.

From the first, there was rigid Federal control and laws regulating the use of Primes right down to the local level. You could get a license for a Utility model Prime if you were a big business executive, or a high public official, or a movie star, or something like that; but even then his circuits had to be inspected every two months, and he had to have a thousand built-in Paralyzers, and you had to specify in advance exactly what you wanted your Prime to be able to do when, where, how, why, and under what circumstances.

The law didn't leave a man much leeway.

But everybody knew that if you really wanted a personal Prime with all his circuits open and no questions asked, you could get one. Black market prices were steep and you ran your own risk, but it could be done.

Harry Folsom told his friend who knew a guy, and a few greenbacks got lost somewhere, and I found myself looking at a greasy little man with a black mustache and a bald spot, up in a dingy fourth-story warehouse off lower Broadway.

"Ah, yes," the little man said. "Mr. Faircloth. We've been expecting you."

I DIDN'T like the looks of the guy any more than the looks of the place. "I've been told you can supply me with a—"

He coughed. "Yes, yes. I understand. It might be possible." He fingered his mustache and regarded me from pouchy eyes. "Busy executives often come to us to avoid the—ah—unpleasantness of formal arrangements. Naturally, we only act as agents, you might say. We never see the merchandise ourselves—" He wiped his hands on his trousers. "Now were you interested in the ordinary Utility model, Mr. Faircloth?"

I assumed he was just being

polite. You didn't come to the back door for Utility models.

"Or perhaps you'd require one of our Deluxe models. Very careful workmanship. Only a few key Paralyzers in operation and practically complete circuit duplication. Very useful for—ah—close contact work, you know. Social engagements, conferences—"

I was shaking my head. "I want a Super Deluxe model," I told him.

He grinned and winked. "Ah, indeed! You want perfect duplication. Yes, indeed. Domestic situations can be—awkward, shall we say. Very awkward—"

I gave him a cold stare. I couldn't see where my domestic problems were any affairs of his. He got the idea and hurried me back to a storeroom.

"We keep a few blanks here for the basic measurement. You'll go to our laboratory on 14th Street to have the minute impressions taken. But I can assure you you'll be delighted, simply delighted."

The blanks weren't very impressive—clay and putty and steel, faceless, brainless. He went over me like a tailor, checking measurements of all sorts. He was thorough—embarrassingly thorough, in fact—but finally he was finished. I went on to the laboratory.

And that was all there was to it.

PRACTICAL androids had been a pipe dream until Hunyadi invented the Neuro-pantograph. Hunyadi had no idea in the world what to do with it once he'd invented it, but a couple of enterprising engineers bought him body and soul, sub-contracted the problems of anatomy, design, artistry, audio and visio circuitry, and so forth, and ended up with the modern Ego Primes we have today.

I spent a busy two hours under the NP microprobes; the artists worked outside while the NP technicians worked inside. I came out of it pretty woozy, but a shot of Happy-O set that straight. Then I waited in the recovery room for another two hours, dreaming up ways to use my Prime when I got him. Finally the door opened and the head technician walked in, followed by a tall, sandy-haired man with worried blue eyes and a tired look on his face.

"Meet George Faircloth Prime," the technician said, grinning at me like a nursing mother.

I shook hands with myself. Good firm handshake, I thought admiringly. Nothing flabby about it.

I slapped George Prime on the shoulder happily. "Come on, Brother," I said. "You've got a job to do."

But, secretly, I was wondering

what Jerree was doing that night.

George Prime had remote controls, as well as a completely recorded neurological analogue of his boss, who was me. George Prime thought what I thought about the same things I did in the same way I did. The only difference was that what I told George Prime to do, George Prime did.

If I told him to go to a business conference in San Francisco and make the smallest possible concessions for the largest possible orders, he would go there and do precisely that. His signature would be my signature. It would hold up in court.

And if I told him that my wife Marge was really a sweet, good-hearted girl and that he was to stay home and keep her quiet and happy any time I chose, he'd do that, too.

George Prime was a duplicate of me right down to the sandy hairs on the back of my hands. Our fingerprints were the same. We had the same mannerisms and used the same figures of speech. The only physical difference apparent even to an expert was the tiny finger-depression buried in the hair above his ear. A little pressure there would stop George Prime dead in his tracks.

He was so lifelike, even I kept forgetting that he was basically just a pile of gears.

I'd planned very carefully how

I meant to use him, of course.

Every man who's been married eight years has a sanctuary. He builds it up and maintains it against assault in the very teeth of his wife's natural instinct to clean, poke, pry and rearrange things. Sometimes it takes him years of diligent work to establish his hideout and be confident that it will stay inviolate, but if he starts early enough, and sticks with it long enough, and is fierce enough and persistent enough and crafty enough, he'll probably win in the end. The girls hate him for it, but he'll win.

With some men, it's just a box on their dressers, or a desk, or a corner of an unused back room. But I had set my sights high early in the game. With me, it was the whole workshop in the garage.

AT FIRST, Marge tried open warfare. She had to clean the place up, she said. I told her I didn't want her to clean it up. She could clean the whole house as often as she chose, but I would clean up the workshop.

After a couple of sharp engagements on that field, Marge staged a strategic withdrawal and reorganized her attack. A little pile of wood shavings would be on the workshop floor one night and be gone the next. A wrench would be back on the rack — upside down, of course. An open paint can

would have a cover on it.

I always knew. I screamed loudly and bitterly. I ranted and raved. I swore I'd rig up a booby-trap with a shotgun.

So she quit trying to clean in there and just went in once in a while to take a look around. I fixed that with the old toothpick-in-the-door routine. Every time she so much as set foot in that workshop, she had a battle on her hands for the next week or so. She could count on it. It was that predictable.

She never found out how I knew, and after seven years or so, it wore her down. She didn't go into the workshop any more.

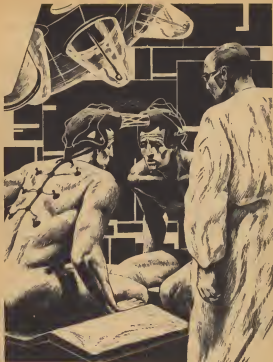
As I said, you've got to be persistent, but you'll win.

Eventually.

If you're really persistent.

Now all my effort paid off. I got Marge out of the house for an hour or two that day and had George Prime delivered and stored in the big closet in the workshop. They hooked his controls up and left me a manual of instructions for running him. When I got home that night, there he was, just waiting to be put to work.

After supper, I went out to the workshop — to get the pipe I'd left there, I said. I pushed George Prime's button, winked at him and switched on the free-behavior circuits.



"Go to it, Brother," I said.

George Prime put my pipe in his mouth, lit it and walked back into the house.

Five minutes later, I heard them fighting.

It sounded so familiar that I laughed out loud. Then I caught a cab on the corner and headed uptown.

We had quite a night, Jeree and I. I got home just about time to start for work, and sure enough, there was George Prime starting my car, business suit on, briefcase under his arm.

I pushed the recall and George Prime got out of the car and walked into the workshop. He stepped into his cradle in the closet. I turned him off and then drove away in the car.

Bless his metallic soul, he'd even kissed Marge good-by for me!

NEEDLESS to say, the affairs of George Faircloth took on a new sparkle with George Prime on hand to cover the home front.

For the first week, I was hardly home at all. I must say I felt a little guilty, leaving poor old George Prime to cope with Marge all the time — he looked and acted so human, it was easy to forget that he literally couldn't care less. But I felt apologetic all the same whenever I took him out of his closet.

"She's really a sweet girl underneath it all," I'd say. "You'll learn to like her after a bit."

"Of course I like her," George Prime said. "You told me to, didn't you? Stop worrying. She's really a sweet girl underneath it all."

He sounded convincing enough, but still it bothered me. "You're sure you understand the exchange mechanism?" I asked. I didn't want any foul-ups there, as you can imagine.

"Perfectly," said George Prime. "When you buzz the recall, I wait for the first logical opportunity I can find to come out to the workshop, and you take over."

"But you might get nervous. You might inadvertently tip her off."

George Prime looked pained. "Really, old man! I'm a Super Deluxe model, remember? I don't have fourteen activated Hunyadi tubes up in this cranial vault of mine just for nothing. You're the one that's nervous. I'll take care of everything. Relax."

So I did.

Jeree made good all her tacit promises and then some. She had a very cozy little apartment on 34th Street where we went to relax after a hard day at the office. When we weren't doing the town, that is. As long as Jeree didn't try too much conversation, everything was wonderful.

And then, when Jeree got a little boring, there was Sybil in the accounting department. Or Dorothy in promotion. Or Jane. Or Ingrid.

I could go on at some length, but I won't. I was building quite a reputation for myself around the office.

Of course, it was like buying your first 3-V set. In a week or so, the novelty wears off a little and you start eating on schedule again. It took a little while, but I finally had things down to a reasonable program.

Tuesday and Thursday nights, I was informally "out" while formally "in." Sometimes I took Sunday nights "out" if things got too sticky around the house over the weekend. The rest of the time, George Prime cooled his heels in his closet. Locked up, of course. Can't completely trust a wife to observe a taboo, no matter how well trained she is.

There was an irreconcilable amount of risk. George Prime had to quick-step some questions about my work at the office — there was no way to supply him with current data until the time for his regular two-month refill and pattern-accommodation at the laboratory. In the meantime, George Prime had to make do with what he had.

But as he himself pointed out, he was a Super Deluxe model.

MARGE didn't suspect a thing. In fact, George Prime seemed to be having a remarkable effect on her. I didn't notice anything at first—I was hardly ever home. But one night I found my pipe and slippers laid out for me, and the evening paper neatly folded on my chair, and it brought me up short. Marge had been extremely docile lately. We hadn't had a good fight in days. Weeks, come to think of it.

I thought it over and shrugged. Old age, I figured. She was bound to mellow sometime.

But pretty soon I began to wonder if she wasn't mellowing a little too much.

One night when I got home, she kissed me almost as though she really meant it. There wasn't an unpleasant word all through dinner, which happened to be steak with mushrooms, served in the dining room (!) by candlelight (!) with dinner music that Marge could never bear, chiefly because I liked it.

We sat over coffee and cigarettes, and it seemed almost like old times. Very old times, in fact. I even caught myself looking at Marge again — really looking at her, watching the light catch in her hair, almost admiring the sparkle in her brown eyes. Sparkle, I said, not glint.

As I mentioned before, Marge was always easy to look at. That

night, she was practically ravishing.

"What are you doing to her?" I asked George Prime later, out in the workshop.

"Why, nothing," said George Prime, looking innocent. He couldn't fool me with his look, though, because it was exactly the look I use when I'm guilty and pretending to be innocent.

"There must be something."

George Prime shrugged. "Any woman will warm up if you spend enough time telling her all the things she wants to hear and pay all the attention to her that she wants paid to her. That's elemental psychology. I can give you page references."

I ought to mention that George Prime had a complete set of basic texts run into his circuits, at a slightly additional charge. Never can tell when an odd bit of information will come in useful.

"Well, you must be doing quite a job," I said. *I'd* never managed to warm Marge up much.

"I try," said George Prime.

"Oh, I'm not complaining," I hastened to add, forgetting that a Prime's feelings can't be hurt and that he was only acting like me because it was in character. "I was just curious."

"Of course, George."

"I'm really delighted that you're doing so well."

"Thank you, George."

But the next night when I was with Dawn, who happens to be a gorgeous redhead who could put Marge to shame on practically any field of battle except maybe brains, I kept thinking about Marge all evening long, and wondering if things weren't getting just a little out of hand.

THE next evening I almost tripped over George Prime coming out of a liquor store. I ducked quickly into an alley and flagged him. "*What are you doing out on the street?*"

He gave me my martyred look. "Just buying some bourbon. You were out."

"But you're not supposed to be off the premises —"

"Marge asked me to come. I couldn't tell her I was sorry, but her husband wouldn't let me, could I?"

"Well, certainly not —"

"You want me to keep her happy, don't you? You don't want her to get suspicious."

"No, but suppose somebody saw us together! If she ever got a hint —"

"I'm sorry," George Prime said contritely. "It seemed the right thing to do. You would have done it. At least that's what my judgment center maintained. We had quite an argument."

"Well, tell your judgment center to use a little sense," I snapped.

"I don't want it to happen again."

The next night, I stayed home, even though it was Tuesday night. I was beginning to get worried. Of course, I did have complete control—I could snap George Prime off any time I wanted, or even take him in for a complete recircuiting—but it seemed a pity. He was doing such a nice job.

Marge was docile as a kitten, even more so than before. She sympathized with my hard day at the office and agreed heartily that the boss, despite all appearances, was in reality a jabbering idiot. After dinner, I suggested a movie, but Marge gave me an odd sort of look and said she thought it would be much nicer to spend the evening at home by the fire.

I'd just gotten settled with the paper when she came into the living room and sat down beside me. She was wearing some sort of filmy affair I'd never laid eyes on before, and I caught a whiff of my favorite perfume.

"Georgie?" she said.

"Uh?"

"Do you still love me?"

I set the paper down and stared at her. "How's that? Of course I still —"

"Well, sometimes you don't act much like it."

"Mm. I guess I've — uh — got an awful headache tonight." Damn that perfume!

"Oh," said Marge.

"In fact, I thought I'd turn in early and get some sleep—"

"Sleep," said Marge. There was no mistaking the disappointment in her voice. Now I knew that things were out of hand.

The next evening, I activated George Prime and caught the taxi at the corner, but I called Ruby and broke my date with her. I took in an early movie alone and was back by ten o'clock. I left the cab at the corner and walked quietly up the path toward the garage.

Then I stopped. I could see Marge and George Prime through the living room windows.

George Prime was kissing my wife the way I hadn't kissed her in eight long years. It made my hair stand on end. And Marge wasn't exactly fighting him off, either. She was coming back for more. After a little, the lights went off.

George Prime was a Super Deluxe model, all right.

I DASHED into the workshop and punched the recall button as hard as I could, swearing under my breath. How long had this been going on? I punched the button again, viciously, and waited.

George Prime didn't come out.

It was plenty cold out in the workshop that night and I didn't sleep a wink. About dawn, out

came George Prime, looking like a man with a four-day hangover.

Our conversation got down to fundamentals. George Prime kept insisting blandly that, according to my own directions, he was to pick the first logical opportunity to come out when I buzzed, and that was exactly what he'd done.

I was furious all the way to work. I'd take care of this nonsense, all right. I'd have George Prime rewired from top to bottom as soon as the laboratory could take him.

But I never phoned the laboratory. The bank was calling me when I got to the office. They wanted to know what I planned to do about that check of mine that had just bounced.

"What check?" I asked.

"The one you wrote to cash yesterday — five hundred dollars — against your regular account, Mr. Faircloth."

The last I'd looked, I'd had about three thousand dollars in that account. I told the man so rather bluntly.

"Oh, no, sir. That is, you *did* until last week. But all these checks you've been cashing have emptied the account."

He flashed the checks on the desk screen. My signature was on every one of them.

"What about my special account?" I'd learned long before that an account Marge didn't

know about was sound rear-guard strategy.

"That's been closed out for two weeks."

I hadn't written a check against that account for over a year! I glared at the ceiling and tried to think things through.

I came up with a horrible thought.

Marge had always had her heart set on a trip to Bermuda. Just to get away from it all, she'd say. A second honeymoon.

I got a list of travel agencies from the business directory and started down them. The third one I tried had a pleasant tenor voice. "No, sir, not Mrs. Faircloth. You bought two tickets. One way. Champagne flight to Bermuda."

"When?" I choked out.

"Why, today, as a matter of fact. It leaves Idlewild at eleven o'clock —"

I let him worry about my amnesia and started home fast. I didn't know what they'd given that Prime for circuits, but there was no question now that he was out of control — way out of control. And poor Marge, all worked up for a second honeymoon —

Then it struck me. Poor Marge? Poor sucker George! No Prime in his right circuits would behave this way without some human guidance and that meant only one thing: Marge had spotted him. It had happened before. Couple of

nasty court battles I'd read about. And she'd known all about George Prime.

For how long?

WHEN I got home, the house was empty. George Prime wasn't in his closet. And Marge wasn't in the house.

They were gone.

I started to call the police, but caught myself just in time. I couldn't very well complain to the cops that my wife had run off with an android.

Worse yet, I could get twenty years for having an illegal Prime wandering around.

I sat down and poured myself a stiff drink.

My own wife deserting me for a pile of bearings.

It was indecent.

Then I heard the front door open and there was Marge, her arms full of grocery bundles. "Why, darling! You're home early!"

I just blinked for a moment. Then I said, "You're still here!"

"Of course. Where did you think I'd be?"

"But I thought—I mean the ticket office—"

She set down the bundles and kissed me and looked up into my eyes, almost smiling, half reproachful. "You didn't really think I'd go running off with something out of a lab, did you?"

"Then—you knew?"

"Certainly I knew, silly. You didn't do a very good job of instructing him, either. You gave him far too much latitude. Let him have ideas of his own and all that. And next thing I knew, he was trying to get me to run off with him to Hawaii or someplace."

"Bermuda," I said.

And then Marge was in my arms, kissing me and snuggling her cheek against my chest.

"Even though he looked like you, I knew he couldn't be," she said. "He was like you, but he wasn't you, darling. And all I ever want is you. I just never appreciated you before . . ."

I held her close and tried to keep my hands from shaking. George Faircloth, Idiot, I thought. She'd never been more beautiful. "But what did you do with him?"

"I sent him back to the factory, naturally. They said they could blot him out and use him over again. But let's not talk about that any more. We've got more interesting things to discuss."

Maybe we had, but we didn't waste a lot of time talking. It was the Marge I'd once known and I was beginning to wonder how I could have been so wrong about her. In fact, unless my memory was getting awfully porous, the old Marge was never like this—

I kissed her tenderly and ran

my hands through her hair, and felt the depression with my forefinger, and then I knew what had really happened.

That Marge always had been a sly one.

I wondered how she was liking things in Bermuda.

MARGE probably thought she'd really put me where I belonged, but the laugh was on her, after all.

As I said, the old Marge was never like the new one. Marge Prime makes Jerce and Sybil and

Dorothy and Dawn and Jane and Ruby all look pretty sad by comparison.

She cooks like a dream and she always brings me my pipe and slippers. As they say, there's nothing a man likes more than to be appreciated.

A hundred per cent appreciated, with a factory guarantee to correct any slippage, which would only be temporary, anyhow.

One of these days, we'll take that second honeymoon. But I think we'll go to Hawaii.

— ALAN E. NOURSE

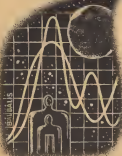
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BY WILLY LEY

TRIBES OF THE DINOSAURS

Illustrated by OLGA LEY

DINOSAURS, said the man, were nature's biggest failure. Since I'm always ready and willing to learn, I was glad to hear this.

Then I added a few figures in my head. The often used term Age of Reptiles, during which the dinosaurs flourished, comprises the three geological periods of the Triassic, the Jurassic and the Cre-



Fig. 1: *Moschops capensis*, from the Permian of South Africa

taceous. The Triassic and the Jurassic each lasted about 35 million years and the Cretaceous lasted 65 million years. This adds up to 135 million years — and you really should start counting a few million years prior to the Triassic.

So the "failures" were around for at least 140 million years, whereas Man started only about half a million years ago. I'd say that was a remarkably long run for a flop and that, so far, at least, the critical success has merely had an out-of-town tryout.

However, it is not my intention to quarrel with somebody's witless verdict. My purpose is, instead, to discuss the question of what the dinosaurs really were, since the term is used rather carelessly in newspaper stories, magazine articles and the movies. To begin with the word itself, it was

pasted together during the last century from the two Greek words *deinos* (meaning terrible, mighty or powerful) and *sauros*, which just means lizard.

THE next statement to be made is one that should be obvious, but I have found that it isn't — namely, that not every reptile is a dinosaur, even though all dinosaurs were reptiles. Reptiles are vertebrate animals which have a dry skin, often scaly, breathe by means of lungs, propagate by laying eggs, and lack a heat-regulating mechanism, so that the temperature of their blood is more or less the same as the temperature of the surrounding air or water.

A crocodile is a reptile. So are a lizard, a tortoise and a snake. But even the largest crocodile, or

the fiercest-looking iguana, is not "an offspring of the dinosaurs." You might as well say that an especially large bull is "an offspring of the elephants"—both these statements are equally silly.

Nor is the mere fact that a reptile is now extinct a criterion. The eight reptilian forms pictured here are absolutely, completely and hopelessly extinct, but half of them are not dinosaurs. They are all reptiles, though, even though the word "reptile" comes from the Latin *repto*, which means "to crawl."

The reptiles got their start way back in the Permian Period, a little over 200 million years ago.

The Earth was not precisely "young" any more then; endless periods had already gone by since its formation. There had been at least 2000 million years during which the planet was lifeless, then another 2000 million years when any life that existed was most likely single-celled, and another 600-700 million years with very primitive marine life, of which we know almost nothing, since they left so few fossils.

Only after all this time had passed did paleontological history begin with the Cambrian Period, which opened the so-called Paleozoic Era. That era began about 550 million years ago and lasted



Fig. 2: *Plateosaurus longiceps*, from the Triassic of Germany



Fig. 3. *Compsognathus longipes*, from the lithographic slate (Late Jurassic) of South Germany

through half a dozen geological periods, with a total duration of 350 million years.

Those half-dozen periods were the Cambrian, then the Ordovician, then the Silurian (the oldest known fishes belong to this period), followed by the Devonian and by the Carboniferous, a period of maximum activity with enormous forests which produced our coal, and with the earliest known insects and salamander-like amphibians.

The last of the geological periods of the Paleozoic Era was the Permian, which produced the earliest known reptiles. They are known from Texas, from Saxony, from Russia (the Permian Period

received its name from the Russian district Perm) and especially from South Africa.

The one that is considered to be the grandfather of all the reptiles was found in Texas and named *Seymouria*. It must have looked like a big ill-tempered salamander with long teeth. In fact, *Seymouria* was not a "complete" reptile yet, but is perfectly intermediate between the early amphibians which came before and the reptiles which were still to come.

The *Seymouria* group, also called *seymouriamorpha*, was, in turn, a sub-group of a larger group called the *cotylosaurs*, or, in English, the stem reptiles.

Everything that followed began with them.

AMONG their earliest offshoots was a group that goes under the technical name of the therapsids, which quickly produced rather large plant-eating forms. One of the best-known of them is *Moschops* — the name means calf's head and don't ask me why; I can't see any similarity — from the Permian of South Africa (Fig. 1). The clumsy reptile was six feet long and must have been quite heavy. There were others that were even larger and their pictures are occasionally printed with the caption "early dinosaurs," but they were not dinosaurs yet.

Out of this general muddle of interrelated large and clumsy,

small and agile, or even large but agile primitive reptiles sprang a number of branches that were to be fruitful, hence important.

One of them, called the theriodonts (which translates as mammal teeth) actually did produce the mammals in the very next geological period, the Triassic.

Another one moved in direct strides toward the later chelonians, which is the term used by zoologists when they wish to encompass both the turtles and the tortoises.

Still another one goes under the name of thecodonts. The name is compounded of the words for tooth and for box, the reason being that their teeth had roots in separate holes in the jaws, an arrangement we tend to consider the norm, but which was



Fig. 4: *Mosopterygius quadrifidus* (Ichthyosaur) from the Lias (early Jurassic) of South Germany



Fig. 2: *Helotus edensis*, from the early Cretaceous of Mang-Yin-Sien in China

by no means the norm then.

This "order" of the thecodonts had two sub-orders, called parasuchia and pseudosuchia. Translated, this gives us near-crocodiles and pseudo-crocodiles — of all things, the Egyptian name for crocodile is hidden in these terms — but one should not translate here, for they were not related to the crocodiles, which are a branch of their own.

The parasuchians at least looked somewhat like crocodiles, but the pseudosuchians were a bunch of radical innovators. Some started to climb trees, others ran on their hindlegs only, still others alternated between bipedal and quadrupedal walk. Some were

armored and others were not.

In time, one sub-branch of the versatile pseudosuchians evolved into the flying reptiles of the Jurassic and Cretaceous Periods — the pterosaurs, to use their technical name. Another sub-branch of the pseudosuchians — not the same — learned to fly, too, by changing its scales into feathers and became the birds. And further sub-branches evolved into the dinosaurs.

A real "early dinosaur" is *Plateosaurus* (Fig. 2), of which fine specimens have been found in Germany, where *Plateosaurus* apparently had to migrate across a desert area every year, with a few falling by the wayside and some

of them becoming fossilized.

Unfortunately the German deposits have yielded fine skeletons but no footprints. The reason this is regrettable is that we do know footprints from Connecticut which could have been made by Plateosaurus or a closely related form. But in Connecticut, no bones have been found.

Though it had not yet attained the impressive dimensions of later dinosaurs, Plateosaurus was quite big. The length of the tail alone was about eight feet.

WHEN paleontology was a relatively young science, it seemed for a while as if all the dinosaurs should or could be

sorted into two orders which could be told apart with half a glance, one walking on all fours, while the other strutted around on its hindlegs. I am sorry to report things aren't that simple.

There are two orders of dinosaurs, all right, but the distinguishing mark is not whether they walked on two or four legs. The distinguishing mark is the shape of the pelvis.

Very many of them have a pelvis which reminds anatomists of the pelvis of birds. They are the Order of the Ornithischia and are sometimes, for simplicity's sake, referred to as the "birdlike" dinosaurs. This just proves again that we should not translate scientific



Fig. 4: *Elamosaurus platyrus*, from the late Cretaceous (Maastrichtian) of Kansas



Fig. 7: *Triceratops horridus*, from the late Cretaceous of Wyoming

terms, for one of these "birdlike" dinosaurs is the rhinoceroslike — but bigger — *Triceratops* (Fig. 7).

On the other hand, little *Compsognathus* (Fig. 3), which did not quite reach the dimensions of a domestic cat, is not one of the "birdlike" dinosaurs. It belongs to the other order, the one which has a pelvis like a reptile, the Order of the Saurischia.

Now inside the Order of the Saurischia, the old distinction into quadrupeds and bipeds does hold true. The bipeds are officially the Sub-order Theropoda, and *Compsognathus* is one of them. So is the flesh-eating *Allosaurus* of the North American Jurassic and so is *Tyrannosaurus* of the North American Cretaceous.

The second sub-order of the Saurischia is the Sub-order Sauropoda, and they are what the lay-

man usually thinks of when the word dinosaur is mentioned. *Brontosaurus* was one of them and so was *Diplodocus*, both from the North American Jurassic. Another member was *Brachiosaurus* of eastern Africa, which was probably the biggest of the lot, and finally the somewhat more recent *Helotus* from China (Fig. 5), which was not at all small itself, measuring some 65 feet from nostrils to tail tip. The reason *Helotus* is pictured grazing at the bottom of a lake is simply that its remains were found in fresh-water deposits.

We now know, because of footprints found in Texas, that the very large sauropod saurischians could walk on dry land. This is a point worth making since, for quite a number of years, it was thought that the legs of the sau-

repoda, while massive, could support the body only if shallow water helped them to carry it. They probably did not go hiking for fun, but if they had to cross dry land to get from one lake to another, they could.

As I said, the old distinction of bipeda on the one hand and quadrupeds on the other hand can still be made, provided you stay inside the Order of the Saurischia. In the other order of the true dinosaurs, the Ornithischia, you can do the same, except for one main difference. The quadrupeds belonging to the Order Ornithischia are so different from each other that they form separate sub-orders.

LET'S look at this in a little more detail. The first sub-order of the Ornithischia is that of the Ornithopoda (bird-footed). In the Jurassic Period, this sub-order was represented by the bipedal dinosaur *Camptosaurus*, which hasn't received much publicity in other than professional books. But the ornithopods of the Cretaceous are well known; they are the so-called duck-billed dinosaurs, of which *Trachodon* is the favorite example.

The remaining three sub-orders of the Ornithischia are all quadrupeds and they are called *Stegosauria*, *Ankylosauria* and *Ceratopsia*.

The first of these three is rep-



Fig. 8: *Pteranodon ingers*, from the late Cretaceous (Niobrara Sea) of Kansas

resented, of course, by the well-known stegosaur, which bore a crest of enormous triangular bony plates on its back, with a few paired sets of spikes on the tail to make the defensive armament complete.

The name stegosaur is based on the Greek word for roof — apparently the first discoverer thought that the triangular plates were lying flat on the body as armor, giving the effect of shingles. We now know that they did not and it probably was the weight of these plates which made stegosaur into a quadruped. The study of his anatomical features makes it perfectly clear that this type was bipedal and re-adapted to walking on all four legs only after it had already acquired the features that go with a usually upright position.

The next sub-order, that of the Ankylosauria, is not too well known to the public and the main representative *Ankylosaurus* is not very easy to describe. The difficulty begins with the name, for the Greek word *ankylōs* can mean curved or crooked or else stiff-jointed. Both meanings apply, the curved to its ribs, the stiff-jointed to its general appearance. It has been called the "tank of the Cretaceous Period," squat and heavy in build, with a broad armor-plated skull, a heavy stiff tail with a clublike bone at the

tip, and, for all we know, with horny spikes along the sides.

The last sub-order of the Ornithischia was also massive in build and heavily armored, at least in front. They were the Ceratopsia (Fig. 7).

And there you have the tribes of the dinosaurs, all six of them: the Theropoda (example: *Tyrannosaurus*), the Sauropoda (example: *Brontosaurus*), the Ornithopoda (example: *Trachodon*, the duck-bill), the Stegosauria, the Ankylosauria and the Ceratopsia. There weren't any others when the dinosaurs were at their peak.

But how about things like the plesiosaurs in the sea, the flying saurians in the air?

They were reptiles and can be called saurians, but they were not dinosaurs. The ones usually called plesiosaurs form a reptilian order of their own, the Order *Sauropterygia*. These long-necked "sea serpents" with their four paddles became more long-necked as time went on. The plesiosaurus of the Jurassic Period was already giraffe-necked. What happened in the Cretaceous with *Elasmosaurus* can be seen in Fig. 6.

MORE numerous than the plesiosaurs were another type of marine reptiles of the general shape and size of a dolphin, the ichthyosaurs (Fig. 4). They also form a reptilian order of their

own, the Order Ichthyosauria, from Greek *ichthys* for fish and *sauros* for lizard.

How well distributed they were can be told by a survey of their life history. The earliest known types of the ichthyosaurs were found mostly in California. A somewhat later type, but still from the Triassic Period, was found in Spitsbergen and named *Mixosaurus nordenskjöldi*, and another one of the same age — give or take half a million years — came to light in Nevada. The vast majority of the ichthyosaurs of the Jurassic Period, however, is concentrated in South Germany and South England.

To forestall questions as to why the ichthyosaur of Fig. 4 has a different name, I have to explain that during the Jurassic Period — more precisely, in the first of the three sub-periods of the Jurassic Periods, when they were most numerous — three main types were around in quantities. They could be told apart best by the shape of their paddles (*pteryx* in Greek), which were either broad (*europe* in Greek) or else narrow (*stenops*) or slender (*leptos*). Hence the three types received the designations *Europterygius*, *Stenopterygius* and *Leptopterygius*.

The ichthyosaurs did not continue beyond the end of the Jurassic Period and their last repre-

sentatives were weak-looking and very nearly toothless types. Apparently they disappeared because they had too much competition from other marine reptiles which grew large then — with teeth to match — and from the sharks, which all of a geological sudden produced a number of formidable types.

And the flying reptiles?

They are a separate order, too, that of the Pterosauria — that Greek word *pteryx* can mean wing as well. We do know that nimble tree-climbing pseudosuchians were their ancestors, but we can't tell just when and where they put in their first appearance. When they did show up, in European deposits from the Jurassic Period, they already came in two sharply distinguished types.

One of these, presumably the somewhat older, was the pterodactylus type, with a very short tail and usually tiny in size, ranging from about that of a sparrow to that of a pigeon or slightly larger. The other was the rhamphorhynchus type, which had a long tail with a tiny skin rudder at its tip and which tended to be somewhat larger, about like a duck. The pterodactylus type seems to have been insect eaters (some have rather large eyes, indicating nocturnal flying) while the rhamphorhynchus type probably was fish-eating.

The pterosaurs did produce one giant, *Pteranodon* (Fig. 8), which hovered over the Niobrara Sea that covered Kansas and adjacent states during the last part of the Cretaceous Period. One find of *Pteranodon* has led to the suspicion that its shape may have been even more unusual than shown. It is possible that it had a large throat pouch for pre-digesting or simply storing fish. The experts, so far, only say that this is possible and the artists hope that they won't become definite on this point, for a dangling throat pouch under this head is hard to draw convincingly.

NOW, of course, the inevitable question will come up why all these abounding forms became extinct at the end of the Cretaceous Period. There is no simple answer to this question because there was no single cause for the extinction of the dinosaurs and those other reptile tribes.

Let's turn this around first and see what is left of the Class of the Reptilia. The following is a listing of all the orders—at this point, I have the choice of either following the system of the late Professor Othenio Abel of Vienna University, or that of Professor Baron von Huene of Tübingen University, or that of Professor Alfred Sherwood Romer of Harvard University, and I have de-

cided in favor of Harvard—with notes pertaining to their fates.

Order COTYLOSAURIA, the stem reptiles, extinct even before the days of the dinosaurs.

Order CHELONIA, tortoises and turtles, still with us.

Order ICHTHYOSAURIA, extinct since end of the Jurassic Period.

Order SAUROPTERYGIA, plesiosaurs, extinct since end of Cretaceous Period.

Order EOSUCHIA, ancient reptiles, extinct at an early date.

Order RHYNCHOCEPHALIA, another type of ancient reptiles, most of them extinct at an early date, but one, *Hatteria*, still alive on islets near New Zealand.

Order SQUAMATA, which has two sub-orders, the LACERTILIA or lizards and the OPHIDIA or snakes, both still with us; the snakes are the most recent reptilian type to have evolved.

Order THECODONTIA, ancient reptiles, as explained, extinct.

Order CROCODILIA, crocodiles and alligators, still with us; they don't date back past the Jurassic Period.

Order PTEROSAURIA, flying reptiles, lasted only through Jurassic and Cretaceous.

Order SAURISCHIA, dinosaurs,

two sub-orders, extinct.

Order ORNITHISCHIA, dinosaurs, four sub-orders, extinct.

Order PELYCOSAURIA, very early forms, extinct.

Order THERAPSIDA, very early and somewhat mammal-like forms, extinct, but the mammals sprang from one of these last two orders.

Though the glory of the reptiles is gone, there are still plenty of reptilians left. As for those that vanished, one can figure out the reasons in a few cases, though not for all. But it must be kept in mind that saying "they became extinct at the end of the Cretaceous Period" is putting it very vaguely indeed. That statement still leaves a leeway of a few million years, and after all dinosaurs had been extinct on Continent A, they might still have been thriving on Continent B.

The reasons? A large forest fire, set by lightning, could easily wipe out a tribe of pterosaurs. The ichthyosaurs succumbed to

competition after they, presumably adapting to a diet of squid, had shed their own teeth. Many tribes, especially when living on small continents or very large islands, could have been eradicated by egg-eaters. Small mammals like eggs and so do birds — and so do snakes, the last offspring of the reptiles themselves.

The large forms probably succumbed to fairly minor climatic changes, simply because they were large. Reptiles lack sweat glands and die of heat stroke if the sun is hot and no water and shade are available. A minor earthquake resulting in the draining of a few sets of large shallow lakes would indirectly kill off whole armies of sauropods. A small lizard can shade itself in underbrush or in cracks between rocks; a brontosaurus could not.

But even though the tribes are all gone, I can't get myself to label them failures. For they did well for a long, long time. The mammals will almost certainly last as long. But will Man?

— WILLY LEY

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The Hardest Bargain

By EVELYN E. SMITH

Illustrated by DICK FRANCIS

"**T**HERE is a group of citizens engaged in rioting on the lawn, sir," Robot Z-1313A told the President of the United States. "Trampling down the early peas,

too," he added, with the objective interest of one whose chief article of diet was oil.

"Well, don't just stand there," President Buchbinder said. "Go out and chase them away!" His



*It wasn't possible to make a bigger or more
disastrous blunder . . . expecting an ollen to
consider himself yr humble & obdt servant!*

voice subsided to a groan. "Have the people no respect for our sacred traditions? Don't they know the White House lawn is the only place for miles around where peas will grow?"

"They're young, most of them," Dr. Livingston, the President's confidential advisor, said tolerantly, puffing at his pipe. "The way the birth rate's been climbing, you take any given number of the

population at any one time and the majority will be too young to remember our glorious traditions —"

"Their parents could teach them!" Buchbinder snapped. "After all, isn't that why we have parents instead of incubators?"

"Their parents are too busy scratching out a living and — ah — breeding to be able to instruct the young ones," Livingston said. "It's a vicious circle which has come to a head in this generation."

There was something wrong with that statement, Buchbinder knew, but he didn't dare come right out and say so, for fear of looking a fool. He knew his confidential advisor was smarter than he was. And what with the atomic wars of the past couple of centuries, the large proportion of strontium 90 in the atmosphere, and general intellectual jealousy, there weren't many intelligent people left in the world, so the ones that remained had to be handled with care.

BUCHBINDER turned to Z-1313A, who was still standing there. "Why haven't you obeyed my instructions?" he demanded, outraged at this evidence of insubordination in a robot. From people you expected it, but a machine was supposed to be above such petty defectiveness. "Why don't you go chase the

rioters off the lawn, per order?"

"I don't dare, sir," Z-1313A explained. "Should I get close enough, they would disassemble me. As a matter of fact, when I informed them from the balcony that they were trespassing, they employed language which — well, sir, if I hadn't been a robot and constitutionally incapable of the pudent graces, it would have made me blush."

"Disassemble a robot!" Buchbinder repeated, shocked. "I never heard of anything so manic in my life. Why should they want to do a thing like that?"

Since the robot did not have parts sufficiently flexible for shrugging, he remained impassive. It was Dr. Livingston who answered. "Haven't you heard, Will? The people are starting to destroy robots when they can get their hands on them. To try to destroy them, that is. Fortunately, most of the people are too weak from hunger and racial debility to do any great damage unless they operate in gangs. Looks like you'll have to pass an anti-congregation law."

"But why should they want to do a silly thing like destroying robots?" Buchbinder persisted.

Livingston smiled wisely. "They're saying that if it weren't for the robots, they'd have jobs, a higher standard of living — the usual complaints you hear at the

beginning of every revolution."

"If it weren't for the robots, they wouldn't have anything at all!" Buchbinder said, exasperated. "Don't they realize that the only thing that keeps the country going at all is the fact that there's a plentiful supply of free labor? And I understand from Counter-intelligence that it's the same overseas."

"Oh, there's plenty of free labor," Livingston observed. "Plenty of service, too. But very little to eat."

"That's not true," Buchbinder said hotly. "Maybe hydroponics didn't work out for large-scale operations; still, the people could perfectly well eat synthetics. But, no, they're so stubborn, they'd rather starve to death —"

"Some of them did eat the synthetics and died anyway."

"Some people insist on being allergic to anything! It's all in the mind!" At times like this, Buchbinder felt he was on the verge of going mad, like Presidents Ling and Riccobono before him. If only he had been elected in the days before the atomic wars, when it was a treat to be President! Then, all a Chief Executive had to do were fun things, like appointing ambassadors and making speeches and declaring wars. He didn't have to worry how to feed the people; in those days, there used to be food growing all over

the place and it was distributed with such efficiency that only a small portion of the populace ever went hungry.

"You'd think since they know there isn't much food," Buchbinder said, "that people wouldn't have quite so many children and make more mouths to feed."

"I don't suppose they're doing it consciously," Livingston told him. "It's nature's attempt to ensure the survival of the race. And it certainly looks from here as if it's likely to be a futile one."

"You're always so pessimistic, Maurice."

Dr. Livingston cleared his throat, as he always did before making a remark he felt to be especially apt. "The thinking man," he said, "is the despairing man."

ROBOT Z-1313B came into the President's office. "A ship from outer space has landed on the lawn, sir," he announced, "thus, I am sure you will be gratified to know, effectively disposing of the rioters."

"Oh, good!" Robot Z-1313A said. "That disposes of my problem."

Both robots shook hands with a slight grating noise.

"But if there were any peas left," Buchbinder mourned, "this must have finished them."

However, he arose, for when

duty summoned, Willis Buchbinder, though possibly reluctant, was never remiss.

"I don't see why the star traders keep on coming all the way out here," he remarked as he put on the sacred frock coat with the authentic moth holes. "Surely what little we have to trade wouldn't be of much value to them."

Livingston took his pipe out of his mouth. "I imagine there must always be little novelty items they can pick up. After all, the fact that we're so far off the beaten track probably gives our products some curio value, if nothing else."

"Oh, I suppose so," Buchbinder sighed. "All right, activate the reception committee," he told Z-1313B. "I don't suppose there's any chance this could be a diplomatic mission or anything like that?" he added wistfully, brushing off the tall genuine silk ceremonial hat.

"No, sir, it is merely a trading ship—and rather a small one," said Z-1313B, who left to turn on the reception committee. That was merely a fancy name for a unitranslator which the government had purchased from a Denebian trader some decades before in return for a partridge in a pear tree. The bargain had, of course, been closed in the days when neither partridges nor pear trees

had become obsolescent.

Although interstellar traders had been dropping in on Earth for the past hundred years or so, Earth had no diplomatic relations with the other solar systems—or any kind of official relations at all, in fact. As far as the terrestrials could make out from the information given them by the various life-forms who hit Earth from time to time those days, there had been some kind of embargo on their planet for many centuries. If the more extravagant reports were to be believed, the sanctions dated back to the time when there were no powered vehicles on Earth.

At any rate, as a result of these discriminatory tactics, Earth citizens were not allowed to ride in the extraterrestrial ships back to their point of origin. It was very likely that an attempt would have been made to prevent them from traveling in their own ships, if they'd had any. Fortunately, however, Earth had not succeeded in developing space travel and so the question never arose.

"Used to be an embargo on all trade, even," a chatty Aldebaranian octopoid had told President Ling. "Now the League seems to be easing up a little on non-vital materials. Who knows, maybe someday, when you're advanced enough or something, they'll even let you into the League. . . . Now

what do you have to offer in fine glass and crystal?"

"IF WE didn't need food," Buchbinder declared, "I wouldn't speak to one of those outworlders. If we're not good enough for them, I don't see why —"

"But we do need food," Livingston said, taking his pipe out of his mouth and pointing it at the President. "Desperately. You have no choice but to dicker with him."

Buchbinder nodded gloomily.

"On the other hand, Will, do you think it dignified to go drive the bargain yourself? What do you have a Secretary of the Interior for?"

"St. Clair?" Buchbinder cried contemptuously. "Why, I wouldn't trust him as far as I could spit. Less, in fact, because I used to be the champion —"

"Willis, Willis," Livingston chided gently as he, too, pulled on his frock coat, "this is no time for dithering."

"If that St. Clair saw a chance to make a fast buck for himself," Buchbinder grumbled, "he wouldn't give a damn about the country. Besides, if there happen to be any truffles, I want to put my bid in for them first. The last time, Defense got them all. And when I reminded General McMullen that, after all, I was Commander-in-Chief, he said he was

sorry, but the top brass had already eaten them all in a soufflé.

"Have you ever thought, Maurice," Buchbinder continued as, fully attired in the traditional ceremonial garments, the two dignitaries clattered down the grand stairs, "how funny it is that these extraterrestrial fellows should have the exact kind of food we eat? I mean it's obvious that they're completely different life-forms with different digestive systems and everything. Some aren't even animals and yet they bring — well, oats, peas, beans and barley. Earth food."

"It's obvious they must know a great deal about us," Livingston answered. "We are worth a bit of study. So it's not hard to understand —"

"I'm not asking how they know what we eat," Buchbinder said. "I'm asking where they get it from. And all properly put up in cans, too."

"It doesn't take a great deal of know-how to put up food in cans. Posnack's experiments with chimpanzees conclusively —"

"I didn't mean —" Buchbinder interrupted. Then he forgot what he was starting to say as he tripped over a roller skate on the bottom step. "Even here," he said bitterly. "In the White House. Children."

"Must be the Secretary of Agriculture's twins," Livingston said.

"He brings them to work to save the cost of a baby-sitter."

THE reception committee proved to be unnecessary; the trader spoke fluent English. He was also vaguely humanoid, being a biped with only one pair of arms and one—rather small—head. It was in skin coloring that the difference between him and the human was most marked, not so much in hue as in arrangement, for his complexion ranged from the ruddy bronze of the American Indian on one side of his scantily clothed body to a Mongolian ochre on the other. Had he been portly rather than thin, he would have resembled an apple. His name was Foma and he came from the Fomalhaut system.

Foma was one of the most attractive outworlders Buchbinder had ever seen, although the President's favorable opinion was undoubtedly influenced by the fact that the alien had not only brought cans of truffles but sauerkraut and pâté de fois gras and beer as well. There were herrings and jam and jellybeans put up in clear, shining glass jars, and lovely plump knockwursts and Brunschweiler sausages neatly encased in their own skins. He had plastic bags of pretzels and potatoes, and his frozen-food locker actually contained stewed

rabbit and pumpernickel and three kinds of strudel.

Foma drove a hard bargain, for he wanted a considerable quantity of Revere silver in return for all these delightful things. However, Buchbinder was no slouch at haggling, either, and he managed to beat down the alien two teapots and a creamer before the bargain was closed.

Then the robots swiftly carried the crates of food into the White House, where a certain portion would be reserved for the government tables. The rest would be carried by other robots to Fort Knox, from which it would be dispensed to the general population according to merit, rank and connections. And, as the food was taken out of the ship, the crowd of children outside the fence, who had been emitting shrill jeers and catcalls throughout the preliminary parleying, fell silent and reverent before the almost legendary dainties borne past them.

"Nice little machines you have there," Foma said, surveying the robots appreciatively. "Is there any chance that you would consider parting with some? I'll give you a good price."

"Oh, no, decidedly not!" the President exclaimed, horrified at such a suggestion. "These were the last creations of our greatest minds before they died," he explained, "and our economy, such

as it is, is founded upon them. We couldn't do without our robots. And there's an arbitrary limit on their numbers built in as one of the prime directives. They manufacture themselves, you see," he went on, anxious not to offend the outworlder, "which is why we have none available for export."

"I do see," Foma said with a smile. "What I can't understand, though, is how you people managed to survive with an economy based on food that doesn't seem to be indigenous to your planet."

"Oh, but it used to be," the President replied wistfully.

HE MADE a sweeping gesture that embraced all of the District of Columbia and part of Maryland. "Once, verdant vegetation stretched as far as the eye could see, while edible animals gamboled about blissfully in it. Why," he cried, carried away, "prior to the twenty-first century, the whole country looked like a combined zoological and botanical garden."

"It must have been very pretty," Foma said. "Not that it isn't pretty now," he added with polite haste. "A very pleasant spot. A river does so much for a town, and that's a very charming river washing the southern side—"

"The western side," Livingston corrected him thoughtfully. "If you mean the Potomac."

"The southwestern side, to be exact," the President said, exercising diplomacy. "However, you should have seen the place before the wars. I understand it was a veritable fairyland!" He grew sad. "But then came the wars. Most of the land was devastated by those terrible nuclear weapons, except for small patches here and there left fertile by chance. The scientists say nothing will grow on most of it for hundreds of years, by which time the race will have died out, I suppose." He gave a brave smile. "Ah, well, it was fun while it lasted."

"I don't mean to presume," Foma said, "but I suppose you could derive a little moral lesson from what happened: to wit, fighting is unprofitable as well as unethical."

"Oh, the human being has always been a fighting animal," Dr. Livingston replied. "If you must have a moral, it might be—" he cleared his throat—"If your weapons are too good, you'll kill off all the game."

Foma gave the confidential advisor a chilling stare, then turned back to Buchbinder. "I am beginning to understand now why you don't rehabilitate your land and start growing things again. I had wondered, but I see now you realize that the same thing would only happen all over again, so it's no use. I really admire you,

though, for your national strength of character in —"

"Rehabilitate the land?" Buchbinder repeated incredulously. "You mean the radioactivity can be removed from the soil?"

"Hasn't anyone ever told you?" Foma asked. "Wait a minute, though," he added consideringly. "I might be treading on classified ground. I must consult my handbook."

Placing what looked like a species of optical instrument before his face, he twirled several knobs.

"No," he announced as he removed it, "not classified at all. I'm forced to the shocking conclusion that the other traders didn't want to dry up a profitable source of revenue by decontaminating your land."

"Well, even if such a process were possible," Livingston said, "you can hardly blame them. After all, business is business."

Foma looked at him sternly.

THESE philosophical irrelevancies made the President impatient. "Do you mean you have a way of removing the radioactivity —"

"Watch out," Livingston whispered. "This looks like the beginning of a sharp practice to me. Personally, I don't believe there is any such process."

Apparently the outworlder's hearing was more acute than the

human. "You Earth people are so suspicious. No wonder —" And then he stopped.

"No wonder what?" Livingston pressed.

"Just no wonder," Foma said firmly. He turned to the President. "Would you like your land decontaminated? By good fortune, I do happen to have the requisite equipment for taking the radioactivity out of soil. The same machine is used for many things."

"Aha!" Dr. Livingston cried. "Good fortune, indeed!" He cleared his throat. "The coincidence in the natural state is an extremely rare bird."

"I'm not denying that it is rather an expensive process," Foma continued, ignoring him. "But when you need something done, you've got to pay the — the price."

It was pretty depressing, Buchbinder thought, to know that there was a cure for your ailment and not have the money to pay for the medicine.

"We have so little," he said hopelessly. "So very little. What can we offer that will make it worth your while?"

"You underestimate the value of your native handicrafts," Foma smiled. "I will undertake to remove the radioactivity from the entire country," he offered, changing to a brisk, businesslike tone,

"in return for the following . . ." Putting his optical instrument to his eye again, he read aloud: "Rembrandt, *Old Woman Cutting Her Nails*; El Greco, *View of Toledo*; Titian, *Venus and Adonis*; Daumier, *Third-class Carriage*; Goya, *Don Manuel Osorio*; Cézanne, *Card Players*; and Picasso, *The Three Musicians*."

"What's all that in English?" Buchbinder asked, thinking that Foma, in his enthusiasm, had lapsed into his native tongue. "Are you sure we have it?"

"He was speaking English," Livingston hissed. "Those are pictures, famous paintings. Among the nation's most treasured artistic possessions. We can hardly sell them for —" he gave a bitter little laugh — "food."

"You mean better we should starve than sell them?" Buchbinder asked.

"Better we should starve," Livingston said solemnly.

THE President struggled hard to understand. "But we sold him the teapots and they're historical. They were made by Paul Revere and he —"

"I know all about Paul Revere, thank you," Livingston said.

"And these are just pictures. From the way they sounded, they were all painted by foreigners. And Paul Revere was an American. A patriot —"

"I know, I know," Livingston interrupted. "On the twenty-second of July in 'seventy-six —"

"Now even I know better than that," Buchbinder said, staring at him in amazement, as did the alien. "It's 'On the eighteenth of April in 'seventy-five . . .'"

"Of course," Livingston murmured. "Now why did my subconscious make me get the date wrong like that?"

"Human memory is fallible," Foma suggested suavely.

The President tugged insistently at Livingston's sleeve. "You're willing to sell the teapots of this great American patriot, but when it comes to things that were made by foreigners —"

"You simply don't understand, Willis."

"I know I don't." Buchbinder's voice was plaintive. "That's why I'm asking you to explain it to me."

"Paul Revere was a great man and a fine silversmith. It is a pity to let his creations go out of our solar system. However —" Livingston cleared his throat — "purely utilitarian objects never attain the artistic dignity of beauty created for its own sake."

"Why?" the President wanted to know.

Livingston gave a sigh and turned to the outworlder. "Look, Mr. — ah — Foma, I'm afraid it will require a special session of

Congress to settle this matter. Would you mind waiting a few weeks? Or months?"

"Or, possibly, years," the President grumbled.

"Not at all," Foma said, smiling. "I shall amuse myself by browsing through the Congressional Library. Perhaps I can locate one or two little items there that we can make a deal on."

BOTH houses of Congress tended to support the President's point of view. "For," the Senate majority leader orated, "splendid and enduring monuments to our nation's greatness though these works of art may be —"

"They weren't even painted by Americans," Buchbinder interposed helpfully.

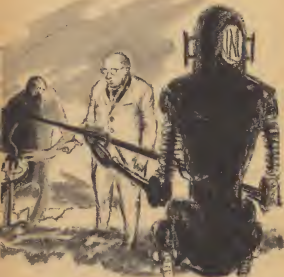
The majority leader glared at him. "I didn't say they were splendid and enduring monuments to our nation's greatness. I only said they may be. Anyhow, should the race perish, there will be no one to look at these beautiful pictures and appreciate their — er — beauty. But then again, should we entrust them to the keeping of the gentleman from the stars —" he bowed toward Foma — "I am sure that his people will preserve them with the same loving care and solicitude that we ourselves have given them."

"You may rest assured of that,"



Foma promised, returning the bow.

"Then, when our lands are fruitful once more, when we are able to give of their abundance to our four-footed friends, so that



the animal kingdom may thrive and multiply again, when our race has regained its former glory, invigorated by the renewal of plenty and a reliable supply of meat, we shall develop space

travel of our own. A mighty fleet shall set sail for the stars —

"Hear, hear!" shrieked the children who filled the gallery to bursting.

"— we shall seek out the strong-

holds where the pictures are kept close," the Senator continued, "and then we—" he glanced at Foma and seemed to recollect himself—"and then we will look at them."

There were boos and catcalls from the gallery.

"Silence!" bellowed the Congressional robots. "Silence!"

"But who's to say this alleged process will work?" the minority leader asked. President Buchbinder knew he was a close associate of Dr. Livingston's. "Mr. Foma may make off with our paintings and leave the land as barren as ever."

"Naturally, I shall not ask for payment, gentlemen," Foma said, "until your lands are green once more."

"Well," the minority leader concluded lamely, "nothing can be fairer than that. I guess."

That seemed to settle it. Congress passed an act empowering the alien to commence rehabilitating the barren lands. Dr. Livingston remained in Washington to keep the eternal light burning over the Tombs of the numerous Unknown Soldiers, while Foma and President Buchbinder set off for Smith County, Kansas. Smith County, Kansas, was the geographical center of the United States and hence the place where Foma proposed to set up his equipment.

"**D**OESN'T seem like much," Buchbinder observed as Foma, with the efficient aid of some of the Smith County robots, put together a simple contraption of wheels, springs, pipes, valves, relays, switches, coils, shafts and wires.

"Perhaps not," Foma said affably, "but it is highly effective. When activated, the machine disseminates powerful sonic rays which will accelerate the diminution of the half-life of the soil until, in very short order, it becomes only a quarter-life, then an eighth-life, a sixteenth-life—"

"I understand," the President interrupted. "But how long does it take until there is no life at all—no radioactive life, that is?"

"Perhaps a week, Foma said. "Perhaps eight days, perhaps six."

"I'd also like to know," the President inquired, apprehensively buttoning his jacket up to his throat, "whether it does anything to people. Because it's not much good if the soil turns fertile and we turn the opposite."

"At this setting," Foma said, "it has not the slightest effect upon any form of animal life."

He beamed upon the Smith County children who had gathered to watch the proceedings. They stuck out their tongues at him. Buchbinder hoped that whenever the alien came from, it was a gesture of great respect.

Then the President had a frightening thought. "The emanations won't reach the Eastern Empire, will they? We wouldn't want their soil to become fertile again."

"You are paying to have this country decontaminated," Foma said, "and only this country will be decontaminated. I do not offer my services gratis. People set no value on anything for which they do not pay."

"Well, of course not!" President Buchbinder agreed. Then he had an even more appalling idea. The Eastern Empire, he'd been given to understand, had some art treasures of its own in a place called the Hermitage. "After you've finished with us," he asked, "you're not going to turn around and make a deal with the East to decontaminate them, are you?"

"That," Foma said curtly as he blew into one of the pipes, "is my business."

"Oh, dear," the President thought, "it is going to mean more wars. Well," he consoled himself, "war is more interesting than riots and, as a matter of fact, a lot safer for me personally, since rioters always make for the White House first, whereas war is on a more catch-as-catch-can basis."

AT THE end of a week, Foma reported that the machine's work was done and dismantled it.

President Buchbinder was thankful, for the sonic vibrations were nerve-racking and people had been complaining, even though he had made a video address to the nation beforehand to explain just what they were supposed to do. Now he made another address, exhorting everyone who had any ground at all to go forth and plant seeds.

"And in case the seeds we have should not prove viable," he concluded, "Mr. Foma has been kind enough to throw a group of vegetable seeds from his own stock into the bargain. Do not think, however," he reassured the nation, "that these are the seeds of alien vegetation. On the contrary, we have Swiss chard, cabbage, beets, onions, cucumbers, Brussels sprouts and rhubarb — all perfectly familiar, I may even say beloved, native vegetables."

As they went off the air, the President remembered a question that had been bothering him earlier.

"You don't look like us," he said to Foma. "How come you grow exactly the same vegetables as we used to?"

"A trader must have brought some seeds back from this planet," Foma said. "Must have been a long time ago, too, because the vegetables you describe as yours flourish on a good many of the other worlds now. Although we

don't care for the produce ourselves, some of our pets like them, which is why we happened to have supplies on hand when we reopened trading operations with you."

"Oh," the President said. It sounded reasonable enough.

After the broadcast, Foma and President Buchbinder returned to Washington, where Foma reveled in the pleasures of the Congressional Library and the Folger Memorial for some weeks. Then the seeds, both local and imported, began to sprout and the land turned green, according to promise, and Foma's bill came due.

"MR. FOMA of Fomalhaut to see you," Robot X-1313B announced as he came into the President's office, where Buchbinder and Livingston were playing chess.

"Sorry I couldn't wait to have an appointment put through the regular channels," Foma said, coming in hard upon the robot's heels.

"Oh, my dear fellow," said Buchbinder, rising, "think nothing of it—we are very informal here. What can I do for you?"

"Now that my part of the bargain is fulfilled, I'm rather anxious to go home, so I'd appreciate immediate payment of my bill."

"Of course, of course! I'll start

getting the pictures together. You should have them by the end of the week."

"Excellent." The alien smiled. "Meanwhile, I'll get my ship ready for the return journey." He shook hands with Buchbinder and left.

"You won't have to bother getting the pictures together," Dr. Livingston said as soon as Foma had gone. "They're all in the basement already."

"Maurice," the President said feelingly, "you did this for me while I was gone. You put aside your personal prejudices in order to save me trouble. You —"

"Well," Livingston interrupted uncomfortably, "you might as well know now: they're not exactly the same pictures he asked for. While you were gone, I got together with a little Congressional committee and we decided —"

"But we promised!" Buchbinder exclaimed in dismay. "We agreed on seven specific pictures. They're listed right here on the bill he rendered!"

"We didn't sign a contract," Livingston said, pushing away the paper the President was thrusting in his face. "Besides, he is getting pictures. Masterpieces, too. But more the kind his people will be able to appreciate."

"How do you know that?"

"Look, I'll show them to you."

DR. LIVINGSTON led the President down to the basement. "Here's what Foma's getting," he explained. "Instead of Rembrandt's *Old Woman Cutting Her Nails*, we give him Delacroix's *Arab Tax Collector*. Instead of El Greco's *View of Toledo*, he gets Constable's *Wivenhoe Park, Essex*. For Titian's *Venus and Adonis*, Hals' *Junker Ramp and His Sweetheart*. For Daumier's *Third-Class Carriage*, Eastman's *My Old Kentucky Home*. For Goya's *Don Manuel Osorio*, Canaletto's *Vegetable Garden*. For Cézanne's *Card Players*, Fragonard's *A Game of Hot Cockles*. And for Picasso's *Three Musicians*, Murillo's *Jacob and Rachel at the Well*."

"Yes, they are very pretty pictures," the President said, inspecting them. "Very pretty, indeed. I can see how we'd hate to let them go."

"No, no, no!" Livingston cried. "These are the ones we're giving him! Nothing but the best, you see. And, on the average, much larger than the ones he asked for. Why, he might not even have known about these; they are less publicized, so outworlders might not have heard of them."

"That's very considerate of you, Maurice," the President said, "but since we are giving him masterpieces, anyway, why don't we let him have the ones he asked for?

Why go to all this trouble?"

"I'll tell you, Will," said Livingston. "It's because the nation has more of a sentimental attachment to the others. And, furthermore, the pictures we are giving him present a more favorable view of terrestrial life. The others — well, I hate to say it about masterpieces, Willis, but some of them might almost be considered sordid. And one of these was painted by an American."

"These are nice." The President didn't know much about art, but he didn't see how anybody could help liking the pictures Livingston and the Congressional committee had selected. "Very nice."

"That's just it, Will!" Livingston clapped him on the shoulder. "You've hit it exactly. They're nice! They're the kind of pictures we'd be proud to have another world see. We want to make a good impression in the other solar systems, don't we, so someday maybe we can get into the Big League ourselves?"

He was convincing, but Buchbinder was still dubious. "Are you sure Foma will understand? He might make a fuss. And he has every right to, you know."

"We'll get the robots to do these up in special gift-wrapping paper," Livingston said, "with ribbons and seals and all, and maybe Foma won't open them until he

gets to his home planet."

"Maybe," the President half agreed. "But even if he doesn't open them, somehow it doesn't seem right. Maurice, don't you think we're going to sacrifice a lot of interstellar good-will if we pull a trick like this?"

"Nonsense! It's just sound business practice." Livingston cleared his throat. "Besides, we cannot let mere material considerations interfere with our duty."

"I suppose not," the President said. "On the other hand—"

"I'll call the robots and have them start wrapping right away," Livingston told him.

"BUT these aren't the pictures Mr. Foma asked for," Z-1313A said helpfully as he brought out the big roll of gold-foil gift-wrapping paper, with "Compliments of the White House," "Regards from the Presi-



dent," and "Best Wishes from the U.S.A." etched on it in flowing script. "Someone apparently has blundered. Shall we —"

"There's no mistake," the President said, the more impatiently as he could not, in spite of Dr. Livingston's assurances, get his conscience to accept this switching of art works.

"They don't look to me like pictures anybody would ask for," Z-1313B contributed.



"They're not supposed to appeal to mechanical tastes!" Buchbinder snapped. "I like them."

"Use the seals that say 'Do Not Open until Inauguration Day,'" Livingston told the robots, "and the heaviest wrapping tape. And be sure you make the knots good and tight, but very ornate, so it'll seem a pity to undo them."

When the pictures were all wrapped, the robots carried them out carefully to the lawn. Foma was waiting next to his ship, in the midst of a welter of debris left by the children who had come to look at it while he was gone. Its once shining metallic sides were marred by scratches and even paint. Some of the disfiguring marks were words.

Buchbinder spelled them out laboriously: "MONSSTER GO HOAM!" "PREZIDENT BUK-BINDER LOVS EXTERATE-RESTRIALS!" "DR LIVINSTUN ISNT AS SMART AS HE THINX HE IS!"

"Oh, my goodness!" the President exclaimed. "What a dreadful thing to have happen! I'll have the robots clean it up at once!"

"Children will be children," Foma smiled. "I find the slogans rather amusing and, in fact, almost decorative. I won't have them touched." And he started to turn to the pictures.

The President gave a scared little gasp. "You've forgotten

something!" he babbled. "Under this tarpaulin. Maybe it's important!" He started to lift the tarpaulin, but Foma stopped him.

"No, I haven't forgotten that. It's — ah — some gear that can't be put on board until after the cargo is loaded. Would you take the paper off the pictures?" he said to the robots.

"They did them up so nicely," the President said in a small voice. "It — it seems such a shame —"

"Don't worry about it," Foma told him. "I'm going to put them away in special hyperspace-proof betting, anyhow. And I wouldn't be much of a trader if I bought goods sight unseen, now would I?"

THE three of them stood there in a dead silence as the robots unwrapped each picture.

Foma's eyes chilled into steel, including the one which had opened in the middle of his forehead. "These are not the pictures I asked for."

"These are fine pictures," Buchbinder faltered. "Very fine —"

"They are very fine pictures. However, our bargain was for seven others. I kept my part of the bargain; I expect you to keep yours."

Livingston shrugged. "I'm afraid you hardly have much choice. You can't contaminate the country all over again. Even if you have the means to do it, I

feel sure that your League would consider such behavior unethical."

"You're quite right," Foma agreed, "although I am rather surprised to find you able to even recognize an ethical point of view."

Livingston grasped the alien's arm. "Be reasonable, man — er — Mr. Foma. These are excellent pictures we're offering you, in tip-top condition. Only the best of pigmenti — and have you ever seen handsomer frames?"

Foma shook him off. "Those are not the pictures we agreed upon. I refuse to accept them in payment of your debt."

Livingston grinned. "If you persist in your obstinacy, sir, I'm afraid you'll have to go back to your planet unpaid."

"Maurice, Maurice," the President whimpered, tugging at his advisor's sleeve, "this will give us a bad name in the Galaxy. They won't come with food to trade any more."

"We won't need their food, lunkhead!" Livingston snapped. "We can grow our own now." He turned back to Foma. "That's our final offer, sir. Take it or leave it!"

"Your final offer, eh?" Foma repeated. "Very well, then."

"Maurice," Buchbinder bleated, "I'm afraid —"

"Shut up, Willis!"

Foma yanked the tarpaulin away and disclosed what had

been concealed underneath it — his decontamination apparatus, already set up.

"You're going to make the land radioactive again!" the President gasped. "I told you, Maurice —"

"He wouldn't dare!" Dr. Livingston cried, but he was pale.

"No," Foma said, "I shall do nothing of the sort. All I want are my just dues. And, as I told you, this is an extremely versatile machine." He blew into a pipe.

There was a moment of silence — a moment in which nothing happened, but everything seemed about to happen. Then there was a clattering sound. And, all of a sudden, the streets were filled with robots. They streamed down Pennsylvania Avenue, they streamed down Connecticut Avenue, marching in perfect unison.

They marched toward the White House; they marched onto the lawn; they marched up the ramp and into the airlock of the spaceship, which expanded in a seemingly limitless way to accommodate them.

HUNDREDS of them came, stolidly marching; thousands came, tens of thousands . . . until it was clear that the District of Columbia and its surrounding communities were being drained of their robots.

"Call out the Army!" shouted the President. "Call out the Navy!

Summon the Marine Corps."

"They're all robots," Livingston said in a tired voice. "Except for the officers, of course, and all they can do is head parades and initial computer directives."

"The Secret Service? . . . No," the President answered himself. "If the soldiers and sailors and marines are robots, then the Secret Service certainly must be." He appealed to Foma. "Please turn off that machine! Turn it off! I'll get you the pictures you wanted — and you can have these into the bargain. You can have the whole National Gallery, only please don't take our robots!"

"Too late," said Foma, and his voice was grand and sad and smug. "Too late. A deal is a deal. When it's broken, the injured party has every right to exact whatever payment he deems fit."

Dr. Livingston stared at Foma, his eyes widening, then widening still further. "Then it wasn't a legend! You actually did it!"

Foma bowed low.

"What are you two agreeing about?" the President asked, looking bewilderedly from one to the other.

Dr. Livingston ignored him. "Then take the children! Leave us our robots!"

"We took the children a thousand years ago," said Foma, "in payment for another bad debt, using an earlier model of this

same machine. But that was only because there was nothing better to take. We also hoped — naively, as it turned out — that the lesson would teach you the high cost of sharp practice."

"Oh, I remember!" the President exclaimed. "You got rid of the rats in some foreign town. And then, when the town officials wouldn't pay up, you took the children. Some fellow wrote a poem about it — a rather long one that we studied in school. . . . That must be how come you got the dates mixed up, Maurice," he added, pleased with his own deductive faculties.

"We took a considerable loss on that deal," Foma said, "because we found that, though human children make delightful pets, they're not much good when they grow up — absolutely no talent for solid, honest labor. No, the robots we can use; the children you can keep."

Dr. Livingston cleared his throat, uncomfortably this time, not complacently. "Then there really is an embargo on us."

"Yes, it was placed upon Earth on July 22, 1376, at a little town in Germany called Hameln — or, as Browning misspelled it, Hamelin. In fact, that swindle is what gave rise to a simile we have in the Galaxy: 'As untrustworthy as an Earthman.' Obviously we cannot have diplomatic relations with

a species that fits the slogan so exactly, especially after this piece of trickery. The embargo still stands."

The airlock clanged to and whirled shut behind him.

Buchbinder and Livingston watched disconsolately as the spaceship zoomed up into the stratosphere.

"Now we'll never make the Big League," the President moaned.

"Aah, what kind of League would send a piper out as an emissary?" sneered Livingston. "And a pied piper, to boot."

AND so the alien vessel hurtled out into space, taking all the robots in the country with it, except for a poor little crippled model from the West Coast, whose reaction time was as defective as his judgment. He arrived from California two weeks later and was so upset at finding himself left behind that he fused completely.

Unrepresentative though he was of the strong, handsome, efficient robots that had gone with Foma, he was all the nation had to memorialize those it had once proudly owned, and he was given a niche in the Hall of Fame. He has the largest bronze plaque there — Browning's poem, engraved all around the base, with appropriate footnotes by historians.

— EVELYN E. SMITH

LEADING MAN

By LLOYD BIGGLE, JR.

Illustrated by PETERFIELD

*There was one thing wrong with
all the world being a stage . . .
so many grudging people had to
be bit players and stagehands!*

HE WANDERED aimless down the long corridor, opening doors and closing them, feeling a growing frustration as each room stretched its yawning opulence before him. He was hungry and he wanted food. He wanted to find a single fireplace where no fire crackled cheerfully. He wanted to find one door that failed to open at his touch. He knew his every move was being watched and he wanted something to happen, but most of all he wanted food.

He tried another door, thrust it open impatiently and froze with his hand on the doorknob.

A man stepped forward, plump, elderly, silver hair crowning his solemn face. His black coat made a most amusing, bulging V over his white shirt. He bowed humbly. "Did you ring, sir?"

"I — don't think so. Did you hear me ring?"

"No, sir."

"Then I didn't ring."

He backed away and closed the door firmly. "I'll count doors," he

told himself. "That should do it."

He moved on down the corridor, his feet sinking noiselessly into the plush piles of the carpet. "One!" He slammed open a door and glancing in at the flickering fire. He moved on. "Two!" he shouted. "Three!" He was approaching the end of the corridor. He threw open another door. "Four!"

The silver-haired man stood before him, bowing humbly. "Did you ring, sir?"

He gazed thoughtfully at the bulging V and pointed a trembling finger. "You - are - a - butler."

"Yes, sir."

"I didn't ring."

He closed the door quickly and hurried on. "Five!"

PAUSING to look out of the multi-paned window at the end of the corridor, he saw only his own face reflected back at him. He turned angrily and started back down the opposite side of the corridor, savagely opening and shutting doors.

"Six! Seven!"

The butler's face was blandly innocent. "Did you ring, sir?"

"No!"

He slammed the door, pushed it open again. "Did you hear me ring?"

"No, sir."

"I didn't ring."

He stood for a moment by the closed door, scratching his head, before he moved on.

"Eight!"

The ninth door opened before he reached it and the butler stepped forward. "Did you ring, sir?"

He pointed at the bulging V. "Did you hear me ring?"

"Breakfast is served in the Green Room, sir. The Duchess is waiting."

"Oh." He took three confident strides down the corridor, hesitated, and looked back. "You're sure it's in the Green Room?"

"Yes, sir. If you would be so good as to follow me, sir . . ."

He followed, keeping his eyes on the sedate blackness of the butler's broad back.

As they entered the Green Room, the Duchess scrambled to her feet - a bit ungracefully, he thought - and hurried toward him, her flowing gown sweeping the carpet. He winced when her dry lips brushed his cheek.

"Good morning, dear," she said. There was a brittle eagerness in her bright voice.

"Morning," he said curtly.

She returned to her chair and the butler escorted him to the other end of the long table and deftly seated him. He glowered distastefully at his egg cup.

"Ham?" he asked hopefully.

"I'm sorry, sir, but the doctor -

your stomach, you know."

"I'm hungry!"

"Would you like two eggs, sir?"

Sadly he reached for a spoon and jabbed at the egg.

The Duchess was picking delicately at her breakfast. He watched her curiously, wondering where he had seen her before. Joan of Arc? No. That girl had had a thinner face. A thinner figure, too. The Duchess was actually good-looking. Cleopatra — that was it. But he hadn't been Julius Caesar for over a month. Odd that she would still be around.

SHE glanced up at him and his searching gaze triggered her face into an instant smile. "Did you sleep well, dear? I hope the speech isn't worrying you."

He dropped his spoon and it clattered dully. "Speech?"

"You have just three days now and Parliament will be in a frightful stew if you don't have it ready. You will work on it this morning, won't you, dear?"

The butler whisked away his egg cup and returned it with another egg. He looked around for the salt and saw none.

"Salt?" he said.

"I'm sorry, sir, but your doctor..."

"I'll get another doctor! I haven't had a decent meal since Waterloo!"

He jabbed furiously with his spoon. He'd have to be someone healthy soon, he told himself, or he'd starve to death.

The Duchess leisurely got to her feet. She was getting better with practice, he thought.

"You will excuse me, won't you, dear?" she asked. "I must go over the household accounts. I've been putting it off for days. I'll be in the West Sewing Room."

He fed himself a large mouthful of egg and waved her away.

"James, see that the Duke is settled in the library as soon as he's finished breakfast. Do work hard on the speech, won't you, dear?"

She swept out of the room and he looked after her, nodding approvingly. She had a good figure. She'd even had a good figure as Cleopatra and there wasn't any place for padding in *that* costume.

He turned to the butler. "Another egg."

"Sorry, sir, but your doctor..."

He shattered the egg cup on the floor and then followed the butler down the long corridor to the library.

He sat for some time before the polished expanse of desk, doubtfully eying the pile of scented paper that lay in front of him. He was hungry. Damn, but he was hungry! He wondered what he should do next. He glanced at the ring that circled the little finger

of his left hand — a large gold ring with 1319 engraved on it in tiny numbers. He rubbed it futilely. Finally he seized a quill and scribbled a few lines on a perfumed sheet of paper.

The door opened almost before he touched the bell. "You rang, sir?"

"About this speech. Want to ask your opinion about something."

"Certainly, sir."

"Beginning of a speech is very important, you know. Should catch the attention right from the first word. Universal appeal and all that sort of thing."

"I understand, sir."

"Wonder if you'd give me your opinion of this beginning."

"With pleasure, sir."

HE CLEARED his throat and bellowed, "Now is the time . . ." He glanced up. The butler stood watching him attentively, alert interest in his grave face.

"Think it might go better with more emphasis on the 'now'?"

"Why don't you try it that way, sir?"

"Mmm — yes. *Now* is the time . . ."

"A decided improvement, sir."

"Thank you. Now don't interrupt until I've finished." He got to his feet, paced back and forth briefly, and struck a heroic pose. "Now is the time for all good men

to come to the aid of their party." He glanced at the butler. "What do you think?"

"A most moving beginning, sir."

"Think it'll do?"

"I'm sure of it, sir."

"Tell me, James, just what is this speech supposed to be about?"

"The Spanish crisis, sir. The entire nation is waiting to hear what the Duke of Wellington will have to say about it."

"Spanish crisis? Spain? Is that in Africa?"

"No, sir. In Europe. It's close to Africa, of course."

"I see. I think, James, I'd like to have the Duchess hear this beginning."

"Certainly, sir. I'm sure she'll be delighted."

He followed the butler, chuckling quietly to himself as James resolutely turned to the left and led him down the long corridor to the end of the east wing. James opened a door, glanced in and turned to him blankly.

"I'm sorry, sir. I thought she said the East Sewing Room."

He shrugged indifferently and followed the butler back along the corridor to the end of the west wing. The Duchess was seated at the far end of the spacious room, talking quietly with a neatly dressed middle-aged woman. That would be the housekeeper, he told himself. Had he seen her somewhere before? He couldn't recall.



He noted their heaving bosoms with amusement, wondering where they had been that they had to dash back with such haste.

"I have a beginning for this speech," he said. "Want you to hear it?"

"I'd be delighted, dear."

He paced about nervously.

"Go right ahead, dear," she said soothingly. "Just pretend I'm not here."

"Now is the time," he thundered, "for all good men to come to the aid of their party."

"Wonderful, dear. Is there more?"

"No. That's—that's all I have at the moment."

"I'm sure Parliament will be delighted. You go right back and finish it."

SHE got to her feet and he stood staring at her until she flushed and backed away anxiously. The butler stepped forward and placed a firm hand on his arm.

"Where's my harem?" he muttered.

"Your—harem, sir?" the butler said.

"Where's my harem?" he shouted. "Just because the Duke of Wellington invites me—what did you do with my harem?"

The Duchess and the housekeeper scurried out of the room in near panic.

"You've embarrassed the ladies, Your Excellency," the butler said. "Naturally the Duke couldn't permit your harem *here*—politics, you know. But if you'll come with me, I'll be glad to take you."

He allowed himself to be led away. With the butler's plodding assistance, he attired himself in robes and a turban, awkwardly mounted a camel that awaited him at the front door, and rode off through the park with an escort dashingly mounted on prancing Arabian horses.

On the far side of the park, they came to a tent village. The last tents were just going up and the turbanned workers were conspiring in the crisp fall air.

A rotund, turbanned figure darted from the nearest tent, robes trailing, sank to his knees and pressed his forehead to the ground. "All awaits your pleasure, Excellency."

"Arise," he commanded. "I expect to eat well today. My favorite dishes."

"It is arranged. Will you honor your wives with your presence?"

"Later. The ride was long. I need rest."

He followed the bowing figure into a spacious tent.

"My favorite dishes, mind you," he said sharply.

"It is arranged, Excellency."

He stretched out on a pile of rugs and closed his eyes. Music

drifted in from the tent that joined his. Pleasantly exotic, it almost made him forget the hunger that seethed within him. He listened until he lost himself in sleep.

It was afternoon when he awoke. His hunger brought him off the rugs with a bound. Attendants hurried in and immediately the music started.

"I will watch my wives dance while I eat," he said.

He strode haughtily into the adjoining tent and seated himself on a rug-decked dais. An attendant humbly placed food before him. The music grew louder and the scantily clad girls began writhing about with immodest abandon.

HE TASTED the warm, watery wine, grimaced, but made himself drink deeply. He plunged his fingers into a sickly-looking stew, brought out a piece of meat, tasted it and spat angrily.

"In Allah's name, what is this?"

"Your favorite dish, Excellency. Camel stew. Would you like a larger portion?"

He took another piece of meat and worked his teeth uselessly on the rubbery texture. "This camel was old before its time," he snarled.

"It is the old camels that Allah blesses with flavor."

He chewed energetically and

forced some pieces of meat down his throat. To his surprise, they stayed down. Still ravenously hungry, he waved the food away and turned his attention to the dancing girls.

He recognized several of them. A lusty-looking brunette had been Madame Pompadour the last time he was Louis XV. He recognized a former Queen Elizabeth and a former Josephine, and suddenly he saw, sitting demurely in a far corner, his late Duchess.

She did have a good figure. And the filmy dancing-girl costume suited it perfectly—much more so than had her Cleopatra costume. She wasn't the queenly type, he told himself. She should stick to the simpler roles.

Leaning forward, he summoned her with a commanding gesture. She moved toward him almost reluctantly, sank to her knees at his feet, and blushed furiously as he drew her up beside him.

"More music," he called. "Louder."

The twangy, whining notes crescendoed to an ear-straining level, and the dancers whirled faster. With a sudden impulse, he picked up the girl and carried her into the next tent.

Attendants fled in discreet panic. He placed her gently on the rugs and began covering her with passionate caresses and kisses. The deft way she plucked

the hypodermic syringe from her brief costume delighted him. He pretended not to notice, even when she plunged it into his arm. He counted ten slowly and began to relax. In a few minutes, he was feigning sleep and she carefully covered him with a rug and tip-toed away.

A ROTUND, turbaned figure, alias James the butler, met the girl as she came out of the tent. "Everything all right, Doctor Rogers?" he asked.

"Hypo," she said. "He was getting pretty worked up. He should be out for several hours."

"It'll do him good. It's usually a strain on them when they switch characters so quickly. Too bad. For a few minutes, I thought he was actually going to come up with a speech. It would have been interesting, getting a parliament together and letting him deliver it."

"Yea. Maybe we pressed him too hard on that speech. Responsibility always makes them regress if they aren't ready for it."

"Don't I know it! We had 1296 all ready to cross the Delaware last week and the strain of making that decision made him regress clear back to toy soldiers. He hasn't come out of it yet. But 1319—I thought he was coming along nicely. He was magnificent yesterday at the Battle of Water-

loo. Today he seemed confused, as if being the Duke of Wellington was our idea instead of his. I don't think the speech was wholly responsible."

"Nothing to do but wait now," she said. "We'll see what he is when he wakes up. Going to leave the tents standing?"

"Might as well. We may get another call for them."

"I'll have to get back and change and file my report. Have the others left?"

"Oh, yea. They left the minute you were — abducted."

He helped her roll an aircar out of a tent. She took off, and five minutes later she brought it in for a landing in the spacious Central Administration parking lot.

Most of the harem girls had already changed when she reached the dressing room. They were trimly attired in crisp white coats and white skirts, and except for several who were having aching legs massaged, their mien was strictly professional.

"Stell," a husky blonde called, "what happened there, anyway? I thought 1319 was the Duke of Wellington today."

"Sudden regress," Dr. Rogers said, peeling off her dancing costume. "Right in the middle of preparing a speech for Parliament, he started shouting for his harem. I'm afraid he nearly cracked."

"He would pick a time when I'm on call. How'd you make out? Was he impetuous?"

"Very. I hypoed him."

"Good girl. I was glad when he carried you out. Another five minutes of dancing — hello!"

A sedate middle-aged woman — 1319 would have recognized her as the Duke of Wellington's housekeeper — dashed in and peered about nervously. "Emergency! Harem requested for 738."

"Oh, my God!" the blonde groaned.

THE patter of conversation in the room cut off abruptly.

"Who is it for?"

"Twice in one day! What next?"

"Are they giving 738 hormones? It was only day before yesterday . . ."

"You should complain," the blonde snapped. "You're not his favorite. I'm still black and blue from the last time. If that lecherous old buzzard tries to paw me today . . ."

"Don't forget your hypo!"

"I won't. I know darn well I'll need it."

The wardrobe attendant was moving among them, passing out the dancing-girl costumes. The girls struggled into them.

"What was 738 doing?"

"He was a college professor today. Teaching Einstein's Theory of Relativity to undergraduates.

They say it was really weird."

"One of his students probably showed him too much leg, and bang, he wanted a harem. That's all it would take with him."

The middle-aged woman was counting confusedly. "Dr. Rogers, are you available?"

"Afraid not," Doctor Rogers said, buttoning her white coat. "I have to file my report on 1319."

"Hurry it up, girls. The aircars are waiting. We've already sent a camel for him."

"Dr. Zerbi left the tents up," Dr. Rogers said. "But 1319 is still there."

"He's already been moved back to his permanent quarters. Better put that in your report. Dr. Cameron, will you take charge?"

"You just bet I will," the blonde said. "I'll make a fuss over him right from the start and maybe we can cut the dancing short. My legs wouldn't take much more."

They trooped out, chattering irritably.

Dr. Rogers left the dressing room, stepped onto the moving hallway and rode to her office in Wing M — the male division. She shared an office with a taciturn young male doctor who always seemed half frightened of her. He was seated glumly behind his desk and did not notice her as she entered.

"Good afternoon, Doctor Karl," she said primly.

"Oh. Good afternoon, Doctor Rogers."

She sat down, dialed 1319, and a record card dropped onto her desk. She studied it, then snapped her fingers. "I knew I'd seen him somewhere. He was Julius Caesar. That was the first week I came here. I was Cleopatra. I was scared stiff."

"How long ago was that?" Doctor Karl asked.

"A little over a month ago."

"They must like your work. Not many stay longer than three weeks."

"It's more likely that I haven't progressed rapidly enough to be moved along," she said dryly.

SHE penned another entry onto the card and sat back, looking at it thoughtfully. "I wonder if he'll ever be cured. He's not so old and he really seems like a nice person. But he's been here six months and he keeps building up and regressing."

"The directors know what they're doing. If he was hopeless, they wouldn't have him here."

"The patients really have it soft, don't they? Look here. He decided he was Napoleon, so we gave him a luscious Josephine and a court. He went off to fight the Battle of Austerlitz and we gave him an army. Then he made himself Duke of Wallington and beat his former self at Waterloo.

Today he wanted a harem and we gave him one. Seems as though you have to be insane to have any fun."

He winced. "Hush! Not that word — we have no insane people here. Our patients merely suffer mental delusions."

"They don't suffer anything. They enjoy every minute of it. Think of the money it must cost to run this place."

"These patients aren't ordinary people. They have talents our civilization needs. They're worth saving at any cost."

"So I've been told. But how many do we save? I haven't heard of a single cure since I've been here. We staff members come and go, but the patients stay on."

"It's a new dimension in mental therapy, of course," he said thoughtfully. "But there must be lots of cures. Look at the case numbers." He glanced at his watch and got to his feet. "Have to run. Women's Division has a Helen of Troy today and I'm drafted for a battle scene."

"Just wait," she said. "You'll end up envying the patients, too."

He called over his shoulder, "I've envied them since the day I got here."

She carried 1319's card down to Central Administration and asked about her next assignment. Doctor Barnstall, the personnel director, peered at her inquir-

ingly, eyes serious behind his thick glasses.

"You look depressed," he said.

"Maybe I am. I'm beginning to envy the patients."

"Nothing to worry about. It happens to most staff members sooner or later."

"Is that why staff personnel is changed so often? I've wondered."

"That's part of the reason. Are you serious about it?"

"I suppose so. It seems like — every little whim they have, we jump to satisfy, and they haven't a worry in the world, and yet we never seem to get anywhere with them. They're always regressing."

He smiled. "Take the rest of the afternoon off. I'll keep you assigned to 1319 and it'll be evening now before he picks up a new direction. Or would you rather have a change?"

"Oh, no. I don't mind 1319."

"Fine. But you do need something new, something fresh. Let's see." He pulled her record card and studied it carefully. "Juliet, I think. You might enjoy that. I'll let you be Juliet the next time we get a call."

She sighed, somehow feeling more depressed than ever. "Thank you," she said. "That might be nice. I didn't care for the duchess role."

She went out and walked across the sunlit park toward her own quarters. The sound of rippling

water reached her from a spacious, circular building and she paused to peer through a one-way observation port.

The calm Pacific Ocean stretched before her to the far horizon. Six men lounged on a battered *Kon Tiki*, nonchalantly floating it toward a distant and invisible Pacific island. One was a patient; the other five were staff members, laboring mightily to stay in character.

She sighed. "The patients have all the fun," she said to herself, and she hurried to her quarters.

LYING on the cot in his quarters, 1319 tried to think about something that would not suggest food. Or eating. If he could have one decent meal, he thought, he might survive. But it would have to come soon.

It was evening and there had been considerable activity outside his door and he was growing impatient. He twisted restlessly and turned over, still feigning sleep in case someone was scanning him.

The voices in the hallway faded into the distance. He carefully edged a blanket over his head, clicked a microscopic switch on his ring and spoke softly.

"Jones reporting."

The ring squeaked back at him.

"One moment, please."

He relaxed and waited until a male voice rasped out. "Nice work,

Jones. That was a clever switch you pulled."

"Glad you think so," Jones said. "I could see that the Wellington line was taking us nowhere. But you never know what to expect from these people. They come up with the damndest things. Have you ever tasted camel stew?"

"Can't say I have."

"May fate spare you that pleasure. Wonder where they got the stuff. Are we missing a camel?"

"No. The inventory checks."

"They carry realism too far."

"It does them good. You came up with some fine acting today. You deserve a bonus."

"I'll take it in steaks. I'm hungry."

"You'll be Romeo when you wake up. Give it a good play."

"Sure. And by the way —"

"What's the trouble?"

"If it turns out that Romeo has a bad stomach or a passion for raw vegetables, I'm resigning."

He clicked off the radio, turned over abruptly and rolled off the cot. Seconds later, the door burst open and an attendant hurried in. Pushing himself into a sitting position, 1319 mumbled groggily.

"Did you sleep well, Excellency?" the attendant said. "Do you wish to visit your harem?"

"What harem?" 1319 demanded. "Where's Juliet?"

The attendant took a step backward. "Juliet?"

"I have a date with Juliet. Can't be late. Got to watch out for those Capulets, too. Where's my sword?"

The attendant unwound the turban from 1319's head. "Of course. You'll have to dress first and then I'll take you to Friar Laurence. Now wait a moment while I make the arrangements."

It was hard for 1319 to hold back his chuckle till he was alone. He'd caught them flatfooted. Suddenly his ring finger tingled and he pressed it to his ear.

"Make this good now, Rogers will be your Juliet and I think we're going to pull her out of it."

He moved the ring and whispered without moving his lips, "Who's Rogers?"

"Your Duchess. The girl in the harem. That trick you pulled was evidently just what she needed. She's starting to think at last. We were getting worried about her. She's been here over a month, with almost no progress. She has a brilliant mind and insanity is too much a luxury for people like that."

The attendant hurried back into the room, "Just follow me," he said.

Following him, 1319 was half lost in his own thoughts. Verona, sixteenth century. Should be some good seafood. He could do with a thick filet.

— LLOYD BIGGLE, JR.



GALAXY'S **5 Star Shelf**

**TALES OF GOOSEFLESH
AND LAUGHTER** by John
Wyndham. Ballantine Books,
N. Y., \$0.35

ONE must be either a hermit or a non-afficionado if one doesn't know by now that "John Wyndham" is the old familiar John Beynon Harris of the early and mid-thirties and hasn't he come a long way since then!

This current collection is almost pure fantasy, with a couple of S-F yarns thrown in as a change of pace. Wyndham ranges from sheer lunacy in "Una," a de-

lightfully zany pitch with the same plot gimmick as Gold's famous "Problem in Murder," to sheer horror in "Jizzle" and the sordidly titled "More Spinned Against."

"Chinese Puzzle," concerning a very well-mannered, exotically colored, genuine Chinese dragon transplanted to alien Welsh soil, and "Confidence Trick," in which five people are sped to Hell on a misguided Underground train, are works in the best light fantasy tradition of John Collier. High praise, indeed, for any author.

Wyndham can write in so many

different veins that you can be sure to find something here to your special liking.

THE BEST SCIENCE-FICTION STORIES AND NOVELS: 1956, edited by T. E. Dikty. Frederick Fell, Inc., N. Y., \$3.50

DIKTY'S current anthology is somewhat less of an event than previously. For one thing, it is a wizened volume compared to its robust predecessors. Also, the title is a misnomer: don't look for more than one novella among the fourteen stories. The majority of yarns are good to excellent, with only a couple of minor efforts. However, one has become so accustomed throughout the years to heavyweights bearing the Dikty label that the ordinary commercial-sized book looks strangely undernourished.

The novella, "The Shores of Night" by Thomas N. Scortia, is a combination space opera/mutation yarn with both aspects underplayed, so that it emerges as a psychological study. It is inclined to turgidity and murkiness, but sustains interest.

Among the longer shorts, "A Canticle for Liebowitz" by Miller, Jr. and "Swenson, Dispatcher" by Miller — respectively, Walter M. and R. DeWitt — stand out. "Clerical Error" by Mark Clifton is a rather fanciful solution to the se-

curity-engendered psychosis problem among government scientists, but darned if it doesn't appear that only bureaucratic thinking will overcome the bureaucratic mind.

Dikty has his usual annual survey, chockful of info unobtainable elsewhere unless you operate a clipping service, and Earl Kemp's "Science-Fiction Book Index" is always an informative feature, listing American, Canadian and British publications for the year.

Good, yes — but bring back the king-sized Dikty.

TALES FROM THE WHITE HART by Arthur C. Clarke. Ballantine Books, N. Y., \$2.00

HERE is another delightful collection from Britain by Ballantine. This time Arthur Clarke leaves off from his galaxy-shaking epics to spin as light and frothy a conglomeration of side-splitters as it has been my good fortune to read. Clarke has done for the London pub, the "White Hart," what the lamented Fletcher Pratt and Sprague de Camp did for "Gavagan's Bar."

His Munchausen is a fog-horn-voiced character named Harry Purvis, a most uningratiating know-it-all, the type we're all too familiar with, but more so. However, as the collection progresses

from the incredible to the unbelievable, Purvis becomes acceptable — almost lovable — particularly in "What Goes Up," in which he squelches a vociferous Flying Sorcerer with a four-thousand-mile-high tall story. One must pull up aghast and awestruck at this story.

An atomic experiment goes awry in the midst of an Australian desert, leaving an impenetrable zone of force which, investigation discloses, is equivalent to a four-thousand-mile mountain as far as power requirements for reaching across the twenty-foot gap from wall-to-zone center are concerned.

I can't go on. The audacity of this super-whopper leaves me nothing more to say — but don't miss it.

This is a Clarke you've never suspected existed, but one you'll hope to see again soon.

THE EARTH BENEATH US
by H. H. Swinnerton. Little, Brown & Co., Boston, Toronto, \$5.00

FAR from producing a dry geological treatise, Swinnerton has written what is close to being a one-volume encyclopedia on the evolution of the Earth. He is professor emeritus of geology and geography at Nottingham University and has published books on

zoology and archeology as well. His erudition is always in evidence, but with an exceptional ability to present his material in an absorbing fashion.

Don't let the sweep of Swinnerton's view frighten you away. He makes sure you see and understand everything he discusses.

THE LAST BATTLE by C. S. Lewis. The Macmillan Co., N. Y., \$2.75

THE *Chronicles of Narnia* consist of seven volumes, of which this is the last. Unfortunately, I have not read the previous adventures, so that certain references were unfamiliar. The book, however, is complete by itself and is a delightful fantastic fable of the type in which the English have excelled since — or perhaps because of — Lewis Carroll.

The downfall of the kingdom of Narnia is assured from the moment that the Ape, Shift, masquerades the donkey, Puzzle, in a lion skin as the Great Lion, Aslan. Acting as the mouthpiece of Aslan, the Ape is guilty of so many treacheries that it becomes necessary for the king, Tirian, to summon aid from beyond the world's end.

The youngsters will be delighted to see who answers the call.

LOST: A MOON by Paul Capon. The Bobbs-Merrill Co., Inc., N. Y., \$2.75

DONALD WOLLHEIM went and spilled the *Secret of the Martian Moons* some months back and now everyone knows that Phobos is artificial, at least in fiction. In this juvenile, Phobos is a giant computer that got left behind when Mars was evacuated eons ago. It has strictly mechanistic motivations, but also a sort of pseudo-curiosity. By listening in on broadcasts, it has absorbed considerable lore, but, very understandably, no sophistication.

It kidnaps a leading artist, his daughter and a friend by means of a flying saucer. Previously, it had snatched a sailor named William Shakespeare in quest of answers to the strange riddle of human emotions.

A strange critter, this Phobos — no sense of humor at all. I have no doubt that the younger folks will enjoy the story, if only to see how it is ultimately outwitted.

DANNY DUNN AND THE ANTI-GRAVITY PAINT by Jay Williams and Raymond Abrashkin. Whittlesey House, McGraw-Hill Book Co., Inc., N. Y., \$2.50

FOR a junior juvenile, this demonstrates a wonderfully brash humor. The son of a widow who

keeps house for a world-famous professor, Danny inadvertently is in on a top-secret project that has come about because of his thoughtless impetuosity.

If not for him, the professor's paint would never have been spilled and its amazing properties discovered. And if not for him, Professor Bullfinch, Dr. Grimes, Joe, his friend, and he would not have been marooned in space, either.

That should teach the young-uns the mixed virtues of impulsiveness. But let your 8-to-12-year-old find out the rest of the story for himself.

UNDERSTANDING SCIENCE by William H. Crouse. Whittlesey House, N. Y., Toronto, London, \$3.75

A REVISION of Crouse's 1948 book, the present volume includes new material unavailable then on fusion, new manmade elements, transistors, the projected Earth satellites, etc.

Crouse is a wonder in the way he can intelligently and intelligibly thumbnail a difficult subject. The multitudinous drawings in every margin by Jeanne Bendick help no end in making this a necessity for the embryo scientist, regardless of the size of his reference shelf.

— FLOYD C. CALE

shock troop

By DANIEL F. GALOUBE

*Commander Lasson faces a bitter
battle, but he had the ultimate
tactic . . . subdivide and conquer!*

IN ALL his seven major campaigns, Commander Lasson had seen nothing quite like this situation.

First there was the heat—humid, stifling, insufferable.

Then there were the constant jolts and convulsions.

But most unbearable of all was the interminable cross-pulse, the monotonous *thump-thump . . . thump-thump . . . thump-thump*.

Enough to drive a macro-control crew crazy!

Commander Lasson emerged from the tunnel and straightened his cramped joints. He glanced tentatively around, taking in the cavernous expanse of the control compartment, with its master console suspended from a tri-axial mount, the busy crews of psycho-electricians who—

He stiffened with apprehension.

Illustrated by DICK FRANCIS

Like a deep-throated growl, the convulsion raced along the tunnel behind him.

"All hands hit the stanchions!" he bellowed into the chamber as he clutched the nearest upright.

The crew scurried to safety and Lasson watched the spasmodic wave shudder past, buckling the artificially calcified floor and lacing the smooth surface with new networks of cracks.

Jarring violently, the entire cavern shifted. The main control console lurched and swung ponderously around on its axes. Pendulumlike, it settled against a new direction of gravity.

Commander Lasson disentangled himself from the stanchion and brushed off his uniform.

Damned convulsions! He spat, as though he could convey his anger through the pulsating wall to the unsuspecting macro-entity.

Then he smiled confidently as he resumed his pompous stride into the compartment. They would win! They would subdue the creature and bring it under permanent positive control!

And then, if not before, would come the modifications — thermobiological conditioning to lower the heat, a damping system to muffle the cross-pulse beat, neuromuscular controls to put an end to the spasms.

He had done it before with the dominant life-forms on seven

other worlds. And each time he had gone back to Valvarez as a conquering hero. He had no doubt that there would be an eighth triumphal return for him and his shock troop.

SHOVING aside technicians who were busy connecting leads from the various tunnels, Lasson drew up stiffly in the center of the compartment.

"All section chiefs front and center!" he ordered.

The leaders left their crews and drew up uncertainly before the commander.

"Jerapy." Lasson singled out one of them. "Are we pulling enough oxygen from the separators?"

"Enough for the shock troop, sir," the lieutenant replied quassily. "But we're having trouble setting up the operational test. Can't find a capillary large enough to take care of ten thousand colonists."

Commander Lasson bristled. "Then tunnel out until you do find one! That project has priority. Besides finding out whether we can capture positive control of the entity, we're here to determine if it will suit the needs of Valvarez!"

Jerapy shrank away, saluting awkwardly.

"Mandor! Report on the status of all major connections."

Another aide shuffled forward reluctantly. "Motor Fiber Forty-six secure and ready for hookup with the central selector circuit. Locomotion Trunk C will be tied in before the end of this shift. We're clearing through the auditory-intercept system now. Next comes the kinesthetic-intercept relay."

"Have you taken current measurements?"

"The subject is supplying more than enough psycho-amps to operate all our equipment."

"Excellent! At this rate, we should be able to start on the vocal associative counter-transfer circuit by the next shift."

"We've already phased the interpretive feedback, sir," the lieutenant reported proudly.

Another section chief stepped from behind the central control console. "The visual-intercept circuit is ready to be checked, sir."

Dismissing the others, Lassen crossed eagerly to the control board, nudged a crewman abruptly out of his way and climbed into the operator's seat.

"You may throw the switch, Parok," he directed.

The chief's hand darted out and flicked a lever. Lassen leaned back to wait for the huge screen above the cabinet to come alive. Absently, he listened to the coarse gutturals of a sergeant marching his detachment out of

a main trunk line tunnel and toward crew quarters: "Hup, two, three. Hup, two, three."

Parok, one eye fastened on the screen, glanced thoughtfully at the commander. "Do you suppose it—knows, sir?"

"About us? Our operation? Of course not. They're intelligent, but only to a degree."

"But those convulsions."

"Merely reflex action."

"So many?"

"Put it down as hypersensitivity. When we bring its sympathetic nervous system under control, we'll eliminate that inconvenience."

The sergeant's "hup, two, three" trailed off into inaudibility as his detachment pushed on into yet another tunnel. Then the visual-intercept screen flared brilliantly, flooding the central control compartment with its intense white glow.

ADJUSTING the controls, Lassen resolved the picture as best he could and took his first vicarious look into the macro-world.

The host entity, it appeared, was in an enclosure with artifacts of its environment around it. From the orderly flow of these articles across the visual-intercept screen, the commander surmised the thing was probably moving around slowly, aimlessly.

But all the furnishings were clouded in a fog of haziness that made it doubly difficult to guess their functions.

"Parok!" he called irately. "Something's wrong. We're getting a myopic effect."

"Yes, sir," the chief conceded humbly, staring worriedly over the commander's shoulder. "Perhaps the entity's optical system is faulty."

"Nonsense. The chances are almost astronomical against that. It's in our circuit somewhere."

"In the optical coordination controls, maybe?"

"Idiot! We're not controlling now. We're merely tapping in. Trace your circuits and find the trouble — immediately!"

PAROK went obediently behind the control console.

Lesson scowled at the procession of indistinguishable objects across his screen, as relayed by the creature's sweeping vision.

The things in the foreground were somewhat clearer than the others. There was a flat-surfaced item on rigid legs with an apparently soft horizontal plane which could be the equivalent to a Valvareian bunk. And there was another article that resembled a chair.

In the background, though, was a blurred pattern of light and dark stripes that could hardly be

compared with anything he had encountered before.

An agonized scream sounded behind the console. Lesson snapped off the visual-intercept switch and lunged from the seat. Around the panel, he found Parok bending over another neuro-technician, whose unconscious form was draped across the lead coming from the cross-index rectifier.

"What happened?" the commander demanded.

"He stumbled into the high-tension wire and got a full load of psycho-electric current," Parok said.

Lesson watched disinterestedly as small quivering ripples coursed over the unconscious man's flesh. Cellular disestablishment, touched off by the charge's electric component, would continue unchecked until the biological disorganization inevitably led to death.

"Damned fool!" the commander exclaimed angrily. "He's no good to us now. Feed him into a waste ejector."

"But," Parok pleaded, "he'll live another three or four —"

Lesson silenced him with a severe glance. He would tolerate no argument — not in this infernal heat — not with what was left of his patience being sapped away by the relentless *thrump-thump, thrump-thump* that beat all around him like drums booming.

He turned away dispiritedly



and headed for his quarters. It was always happening on these test confiscations. Death by contact with electricity was the principal hazard for the advance guard that went out to determine whether any given macro-life-form was suitable for host-parasite colonization. But nothing could be done about that.

JOLTED awake by the strident clanging of the Class A alarm bell, Lason sprang from his bunk and raced into the corridor. He reached into the stream of scurrying macro-controlmen and snatched one of them by the arm.

"Leucocyte breakthrough!" the man explained, horrified. "Trunk C tunnel!"

The commander joined the rush of frenzied emergency personnel and sprinted across the central control compartment, past the vehicular access corridor where the shuttle lay at anchor and into the Locomotion Trunk C tunnel.

Ahead, standby crews were pushing forward, lugging portable floodlights, hand-sterilizers and broad-beam coagulators.

He overtook them and charged past, rounding a bend and almost stumbling on a trunk lead that stretched along the floor like a great bacillus.

The scene was one of frantic disorder as the corridor reverber-

ated hollowly with the groans of dying men and the shouts of others who faced the horrors of the leucocyte attack.

The break was through the left wall of the tunnel. It was hemorrhaging profusely, letting through a torrent of viscous thrombin, together with an occasional gray mass, lumpy and ominous.

Already the corridor was flooded halfway to the ceiling and stubborn crewmen were staging a valiant fight to reach the section of ruptured wall.

Lason waded knee-deep in the nauseous substance. A nearly submerged erythrocyte rammed into his leg and almost threw him off balance. But Paffun, the section chief, caught his arm.

The commander turned to give orders to the subordinate, but the red corpuscle, as though playfully curious, surged back and struck him forcefully from the rear. His knees buckled and he splashed forward into the repulsive mess.

He managed to keep his head above the sea of thrombin, but as he tried to regain his feet, the erythrocyte returned a second time, bringing another disc-shaped cell with it.

SOMEHOW the first corpuscle managed to maneuver its bulk between two of the commander's legs. He came erect with a

high-pitched shout that was not altogether an outburst of rage.

The thing's companion surfaced, flipped over and sent a spray of thrombin splattering against his face. Lasso kicked out vengefully at the closer of the two.

Paffun seized his arm again to keep him from falling a second time.

"We need more coagulator crewmen!" the chief shouted above the din of gushing blood and screaming Valverezians.

"They're on their way." Lasso looked down at the thrombin clinging to his uniform and already solidifying. "This hemorrhage cost us many casualties?"

Paffun shook his head dismally. "More than a score so far. We —"

The chief cut his words short with a terrified scream as a chalk-white mass reared up out of the rising tide of thrombin and, amebalike, extended a pseudopod toward him.

LASSON cut it down with his sterilizer and kicked inquisitive erythrocytes revoltedly out of the way.

"Damned leucos!" he growled at the quivering white horror.

Close to the breakthrough, two crewmen yelled as great frightening arms swept up out of the boiling sea of blood and embraced them in a grip of acid death.

Their shouts ended in gurgling sounds when they were dragged under the surface.

"Bring up those reinforcements!" the commander roared back down the tunnel. He jockeyed to keep his balance in blood that was now waist-deep. "Paffun, order retreat. We've got to draw back and block off the entire corridor."

Even as the chief called off his men, three more Valverezians fell victim to the flailing pseudopoda.

"Trunk C," Paffun reminded hesitantly, "is our most important project at this stage."

"We'll cut a detour. Too many capillaries in this section anyway."

They withdrew until the thrombin was only ankle-deep. Isolated and exposed red corpuscles were everywhere, writhing in the grip of death. Battle-weary survivors stepped cautiously over them in retreat.

A first line of containment formed across the tunnel, with sterilizer and coagulator crewmen standing shoulder to shoulder and playing their weapons against the advancing tide.

Lasso waited until all the visible red cells, together with the monstrous leucocytes, were frozen motionless in the rapidly curdling fibrin.

Then he wearily made his way back to the central compartment.

DESPITE the fact that that he had had ample rest after the leucocyte encounter, Commander Lasson was haggard and dispirited as he slumped beside the control console. It was difficult to dislodge from his thoughts the hordes of shapeless white horrors that lurked just beyond the thinly calcified walls.

He sighed in resignation, realizing that he might forget them if it weren't for that infernal *thump-thump, thump-thump* that was a constant reminder of the nearness and profusion of the treacherous capillaries.

Lasson loosened the soggy and wilted collar of his uniform and wiped his face with a limp hand. Damned insufferable heat! Filthy, rotten, putrid air!

"Baldon!" he shouted impatiently.

The crewman started, looked up from the ventilation duct on which he had been working, dropped his tools and hurried over.

"What's wrong now?" Lasson demanded. "You call this"—he waved a hand in front of him—"air?"

"We have our oxygen separator system working at two-thirds capacity, sir."

"And why aren't we using all three of them?"

"It's the fibrinogen, sir. Keeps jelling in the intakes. We haven't

found the right counteragent yet to stop coagulation. So we have to work two on and one off, with ream-out crews busy around the clock."

"Oh," the commander said disappointedly. Then his voice rose indignantly as his expression hardened. "All research personnel will stay on the job until the problem is solved. Any man caught sleeping before this matter is cleared up will be fed into the waste ejectors!"

Baldon backed away saluting while Lasson splayed his collar wider.

"The subject, Commander," said a thin voice behind him, "is becoming aware."

Lasson faced the subordinate. "It's found out—about us?"

"Oh, no, sir. But it knows some force is overriding its will and controlling some of its actions."

"When did the thing begin suspecting?"

"When we tested unit control over a few of its organs." The crewman grinned. "It practically had a fit when we manipulated its arms and hands."

Lasson laughed lustily. "How did you learn about its reaction?"

"By sorting through its concept field when we hooked in the duo-intellectual correlator. The thing's been trying to tell other macro-entities that something's wrong." The subordinate put a hand in

front of his mouth to hide his snicker. "But nobody will believe it!"

COMMANDER Lesson's roars of amusement all but rocked the compartment. "That's what usually happens. On Zerak IV, our shock troop not only completed the experimental confiscation, but we also brought almost one per cent of the population under total control before the rest guessed what was happening."

"I know," the crewman said. "I was in the advance detail there, too. But with the macro-weapons we put in the hands of the subjects, we were able to take over completely and dispose of all the Zerokians we didn't need."

The compartment blazed with light and Lesson turned toward the visual-intercept screen.

Parok was attempting to refine the distorted picture that represented the entity's field of vision. But the objects in the scene were as fuzzily defined as before.

The commander stood behind the psycho-technician and watched interestedly. It was apparent that the thing was back in the same compartment where it had been when they first tuned in on its optical system. Judging from the relative position of the indistinct articles of furniture, Lesson decided it was seated on its bunk.

Squinting to compensate for the faulty picture, the commander tried to discern detail in the background—the alternate stripes of black and white that challenged his imagination.

But the field of vision shifted rapidly, frantically.

Lesson swore and seized the optical coordination controls. "If you're going to use its eyes, use them!"

The scene on the screen steadied abruptly.

But two out-of-focus hands swept into the field of vision and clamped themselves over the creature's eyes. The screen went blank.

"Hit the manual controls!" Lesson commanded.

Parok adjusted two dials and the hands fell away again.

The commander bent forward and studied the picture. "We've got to do better than that. I want that myopic effect eliminated completely."

"It's their bipartite nature, sir," offered Parok. "Two eyes, two arms, two hands, two legs. We're trying to translate from a two-value physiology into our own three-value specifications. Since we've got three of everything that they have two of—"

Lesson cut him short. "It can be done. And it won't take special equipment. We can convert the material on hand."

IMPULSIVELY, he reached out and switched on the auditory-intercept circuit. The speaker on the console came to life and emitted a jumble of meaningless vocal sounds. It was the creature's own voice—Lasson could tell from the way the alien words coincided with the vibrations that were coming through the walls of the compartment.

He turned on the vocal associative counter-transfer and the interpretive feedback. The meaningless sounds immediately turned into Valvaregian words:

"Oh (something or other)! Oh (something or other)!"

The concept that failed of translation was a single-syllable word, apparently invoking or appealing to some mythical divinity.

The entity evidently wasn't going to utter anything except the pleading expression. Disgusted, Lasson began snapping off switches. The screen went dead. The speaker's background sibilant sputtering trailed off into silence.

"Commander!" Parok exclaimed, startled. "Listen!"

"I don't hear anything."

"Exactly! No *thump-thump*!"

Lasson eventually became aware of the silence and glanced awesomely at the walls.

"Modification Section's done it!" Parok said exuberantly. "They've muffled the cross-pulse beat!"

Throughout the big control room, crewmen paused at their work to stare in silent wonder at the calcified ceiling.

Now, Lasson thought, if only they could take care of the heat and the air and the occasional convulsions! Then half of his shock troop's mission would be accomplished. And they would have only the comparatively simple task of bringing the macro-creature under positive, coordinated control.

In the smaller communications compartment several shifts later, the commander worked doggedly to establish a tight beam via sub-ether to Valvarex.

He reported directly to Commissioner of Colonization Survey Zemurra, filling him in on progress since the expedition had last managed contact with the home planet.

But as the report unfolded, Lasson got the impression that Zemurra was receiving the information somewhat indifferently.

"But we are doing excellently, sir, despite the setbacks," he hastened to add.

"Perhaps so," said the commissioner. "But I'm disappointed that you found it necessary to go so far before finding a suitable life-form."

"I had no control over that. I searched until I found what I was sent to look for."

ZEMURRA was silent a long while. "How many men did you say you lost?"

"Only two, sir," Lasso lied. But he could report the other twenty-one casualties after the mission succeeded.

"Very well, then." The frigid voice thawed a bit. "You may continue. But you should know that three other shock troop units have discovered suitable life-forms also. And all three of those new worlds are less than a tenth of the distance from Valvarex than the one you're on."

So that was it! No wonder the old boy had sounded indifferent.

"These three life-forms," Zemurra went on, "exist in abundance and, as colonial hosts, will be adequate for our expansion for many, many generations. Nor will they ever be a threat, since they haven't developed microbiology. We won't even have to bother bringing them under control to insure our safety."

Lasso grimaced resentfully. Damned if he was going to have his mission canceled and the glory cut out from under him!

"I'm quite sure, sir," he said, "that the creatures here will serve our needs such as no other type of host in all our history."

"I can see no reason why we should extend our operation unnecessarily."

"But you haven't seen these

beings! Each could accommodate at least a million Valvarexians. There is ample flesh volume, outside of the cranial control area, for hundreds of very large residential pockets. Every ingredient we need exists in abundance in millions of capillaries surrounding all pocket regions!"

"As I said before, you may continue, seeing that you have gone so far. But in view of the other developments, I would advise against asking for any special consideration. The usual policy still applies. If there is any prolonged breakdown in communications, it will be assumed that your shock troop failed its mission and must be presumed lost. There will be no rescue party. We will write your expedition and the new planet off as a total loss."

"I understand, sir. But we won't fail. You may expect my request for the first detachment of colonists very shortly."

"You are that close to success?" Zemurra seemed impressed for the first time.

"We have all voluntary motor systems hooked in and tested. We're ready to tie them into the supplementary auto-reaction circuit. A vast colonial pocket is being excavated in the fleshy part of one of the creature's lower limbs. The cross-pulse beat is under control, the air problem licked. We've —"

The compartment shifted and jerked and quivered. Ripples raced across the floor and walls. Irregular sections of calcite, dislodged from the ceiling, showered down on the communications gear.

Lasson gripped his chair and signed off before the commissioner could question him on the unseen commotion.

HE SWORE volubly. Either the sympathetic-system crew would put an end to these damned convulsions immediately or they'd find themselves stuffed down the waste ejector into the capillaries!

The creature screamed and its fists thrashed about in its field of vision, beating against a featureless wall.

Lasson grimly brought the arms under control and held them rigid against the thing's side. He immobilized its legs so it wouldn't complicate matters by dashing about.

Then he concentrated on its visual system, twisting the optical control dials first in one direction, then in another as he studied the results on the intercept screen.

Its bed split into two images and the counterparts slipped away from each other. He twisted the dials in the other direction and the reflections meshed into one, then slowly drifted apart as before.

Nothing he did, however, would make the objects in the background stand out any more clearly.

Once more he split the images and studied each component. Fuzziness still enveloped the duplicate items in the background of the double picture. The trouble, apparently, was not focal malcoordination between the two sight organs. It was, as Parok had theorized, a defect inherent in the transition from bipartite to tripartite vision.

Lasson realized the entity was still screaming. The wild outbursts were shrilling through the audio-intercept speaker and their direct vibrations were beating thunderously against the compartment walls.

"Knock it off, Mac!" came a different voice through the circuit.

"That's an old trick," still another macro-creature said. "Won't help you any."

"But — but something's happening!" the host entity cried desperately. "You got to believe me! Oh (something or other)!"

"Wait till you see what's going to happen!"

Upbraiding laughter from several directions.

Then: "Somebody shut him up!"

Lasson cut off the audio-intercept circuit, immobilized the sub-

ject's vocal organs and put the creature on automatic pace behavior. He returned to the optical controls.

But his efforts were futile.

DISGUSTED, he leaned back and studied the flowing picture, absently staring at the light and dark pattern in the background and curiously trying to guess its nature and purpose. It was like nothing he'd ever seen on Valvarex.

"Parok!" he called suddenly.

"Yes, sir?" The psycho-electronics chief shuffled dutifully across the floor.

"Where's the last man who worked on the optical-intercept?"

"Somewhere in a capillary," Parok replied diamally, "as you ordered, sir."

The commander made a gesture of annoyance. "Well, see that the man who's working on it now joins him, and put another on the job."

"At this rate, sir," Parok offered uncertainly, "I won't have any section personnel left. Have you considered using a detention method — like the natives on Cervia IX did?"

"Detention? What's that?"

"When a subordinate does something wrong, you lock him up. If you need him later, he's still there."

"Inefficient. A waste of time,

food and room." He dismissed Parok with a flick of his hand. "March the man to the injectors."

There was a blinding flash from somewhere behind the control console and a chorus of agonized yells trailed off into short-lived moans.

"I think that will be quite impossible now, sir," Parok said hopelessly.

It was. Lesson had to detach a special detail to carry the man in question, together with the other two who were in contact with him when he absorbed the two microamps of electric current, to the injectors.

By the end of the next few shifts, quite a remarkable change had come over the control compartment. Every feature of the "new order" reflected impending success of the shock troop's mission.

To begin with, there was a subtle undercurrent of victory in the attitude of the men. Whereas before they had seemed uncertain and apprehensive, they were now cocky and spirited.

Lesson complimented himself on having done a good job, both on the men and on the macro-entity.

The compartment now presented a homy appearance. Speakers on the walls filled the room with soft Valvarexian music. Cool breezes, artificially scented with

the redolence of saron blossoms, fanned out from the air ducts.

The floor was smoothly paved with a new layer of calcite that had remained undisturbed by convulsive upheavals for several shifts. And the cross-pulse beat had been deadened until the thrump-thump was but a euphonious rhythmic accompaniment to the soothing symphony.

Lounging chairs were now part of the furnishings, and frescoes that strummed nostalgic chords in the hearts of the men decorated the walls.

EVEN the stern and redoubtable Commander Lasson seemed less out of sorts as he hummed his harmonic obbligate to the music. His stubby fingers beat out the tempo on the console keyboard while he absently monitored the visual-intercept screen, putting the creature through a series of coordination exercises.

Parok sat in the co-controller's chair, manipulating switches and experimenting with the macro-being's facial expressions and semi-automatic gestures.

"Handles rather nicely, doesn't it?" Lasson asked civilly.

"As well as any we've ever brought under permanent control," Parok agreed.

"The commissioner will find it impossible to reject this life-form. It's ideally suited to our needs.

I'm sure Zemurra will withdraw the colonists from all other worlds and assign them to hosts on this planet."

The commander put the subject on full automatic pace and sat back contentedly.

"Well, that finishes it up," he said, slapping his palms against his thighs. "Of course, we haven't been able to correct the optical relay defect, but that doesn't matter. The vision is well within specifications."

He cast one final wistful glance at the provocative light-dark vertical pattern in the background of the thing's vision, shrugged futilely and buzzed the communications section chief on the intercom.

"I want you to prepare an official sub-ethergram to the commissioner," he instructed. "Say, 'Your Excellency: Test Project Twenty-eight complete and ready for colonization. Residential pocket prepared for first ten thousand colonists. All conditions ideal-plus. Dispatch shock troop units to bring next one hundred thousand host entities under positive control.'"

"When you have the message taped, bring it here for authentication before you send it."

Lasson rose from the control chair momentarily and slipped on the kinesthetic relay suit. He tugged at the creases until it fit

snugly, then plugged in its leads.

The kinesthetic circuit warmed up to operational potential and abruptly he was as one with the macro-entity. Now he was aware of all its external sensations—the position of its limbs, the warm air on its skin, the slump of its shoulders.

It was disconcerting at first, of course. Most difficult of all was getting used to the vicarious sensations of walking on two legs, manipulating objects with only two hands.

THE commander tensed. Something was wrong. The thing felt different from the last time he had tapped in on its kinesthetic system. There was a—chilliness somewhere.

Parok gestured toward the big screen.

Other macro-creatures were in the room with the host now. One, dressed in some sort of a dark robe, stood in front of the subject and read from a small black book. The vocalization came promptly through the audio-intercept speaker:

"Something or other. Something or other. Something or —"

It was all very confusing. The vocal associative counter-transfer was failing to translate anything the black-robed creature was saying.

It was as though the being

was speaking a language totally alien to the host.

Tentatively, Lasso raised the subject's hand to the top of its head. No wonder there was the sensation of cold! The mat of threadlike growth had been removed!

The commander glanced uncertainly over at Parok. But the subordinate only shrugged hopelessly, indicating his inability to guess at what was transpiring on the screen.

Presently Lasso received the sensation of strong hands seizing the host entity's arms and tugging him toward the puzzling pattern of vertical stripes.

He started to manipulate the controls and make the subject break free, but then he realized the resistance might overload the circuits. So he put the creature on semi-automatic and let it submissively go along with the others.

The incongruous striped pattern swam closer and came into focus as the party approached it. Lasso could discern now that it was a series of lathlike stripes of metal spaced at short intervals and extending from the floor to the ceiling.

The creature and those with it went through an aperture in the pattern and down a corridor into a small, bare room.

All the sensations were transmitted to Lasso through the kin-

aesthetic relay circuit as the entity was lowered into a stiff chair and bands were clamped tightly around its wrists and ankles.

Intrigued, the commander made the subject glance up in time to see a dome-shaped metal object being lowered over its bare head.

It was an uncomfortably cold thing and Lesson tried to raise the creature's hands to snatch it away, forgetting that the sub-

ject was, for some reason, shackled.

For a brief instant, the commander closed his eyes and tried to visualize, in true perspective, the great cupola in the macro-world as it almost completely encased the brain and its network of Valvarezian tunnels and compartments and crewmen.

Then he waited interestedly to see what would happen next.

— DANIEL F. CALOYE



FORECAST

Instead of merely having the usual brain-wave dips and curves, the electroencephalograph of a sunny bland Viking like Poul Anderson must consist of dour storm-scoured peaks and mystery-black valleys . . . like those that landscape *A WORLD CALLED MAANERÉK*, next month's novella. The planet itself is darkly adventurous enough, but Anderson sets down in it a man recklessly striving to escape an even darker enigma: What are the forgotten memories that eat at the rim of his mind? Are they why he looks and feels so unlike his people? He knows there are answers . . . but they are not inside him!

Despite its grim-sounding title, Robert Sheckley's novelet, *THE DEATHS OF BEN BAXTER*, is a perfect contrast. The breath of an entire population literally hangs upon whether Ben Baxter lives or dies . . . and he infuriatingly refuses to stay alive!

Along with perhaps another novelet and certainly short stories and our regular features, Willy Ley has a genuinely startling report to make . . . *THE MOON CONTRACT* exists right now! No, it's not a con game for starry-eyed speculators. It has nothing to do with lunar real estate or mining concessions or, for that matter, anything you are likely to guess . . . because it has nothing whatever to do with the Moon. Yet the contract exists as an actual legal document, with the most solid and solvent financial, political, military and scientific backing possible. Don't lie awake nights wondering; read the astonishing details in next month's issue. Of course we know this is a deliberate tease and that you hate us for it, but the purpose of a Forecast is to sell copies, isn't it? We promise you won't be disappointed.



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Confidence Game

By JIM HARMON

I admit it: I didn't know if I was coming or going—but I knew that if I stuck to the old man, I was a comer . . . even if he was a goner!

Illustrated by EPSTEIN

DOC had this solemn human by the throat when I caught up with him.

"Tonight," Doc was saying in his old voice that was as crackled and important as parchment, "tonight Man will reach the Moon. The golden Moon and the silver ship, symbols of greed. Tonight is the night when this is to happen."

"Sure," the man agreed severely, prying a little worriedly at Doc's arthritic fingers that were clamped on his collar. "No argument. Sure, up we go. But leave me go or, so help me, I'll fetch you one in the teeth!"

I came alongside and carefully started to lever the old man loose, one finger at a time. It had to be done this way. I had learned that during all these weeks and

months. His hands looked old and crippled, but I felt they were the strongest in the world. If a half dozen winsos in Seattle hadn't helped me get them loose, Doc and I would have been wanted for the murder of a North American Mountie.

It was easier this night and that made me afraid. Doc's thin frame, layered with lumpy fat, was beginning to muscle-dance against my side. One of his times was coming on him. Then at last he was free of the greasy collar of the human.

"I hope you'll forgive him, sir," I said, not meeting the man's eyes. "He's my father and very old, as you can see." I laughed inside at the absurd, easy lie. "Old events seem recent to him."



The human nodded, Adam's apple jerking in the angry neon twilight. "'Memory Jump,' you mean. All my great-grandfathers have it. But Great-great-grandmother Lupo, funny thing, is like a schoolgirl. Sharp, you know. I . . . Say, the poor old guy looks sick. Want any help?"

I told the human no, thanks, and walked Doc toward the flophouse three doors down. I hoped we would make it. I didn't know what would happen if we didn't. Doc was liable to say something that might nova Sol, for all I knew.

MARTIANS approaching the corner were sensing at Doc and me. They were just cheap tourists slumming down on Skid Row. I hated tourists and especially I hated Martian tourists because I especially hated Martians. They were aliens. They weren't men like Doc and me.

Then I realized what was about to happen. It was foolish and awful and true. I was going to have one of mine at the same time Doc was having his. That was bad. It had happened a few times right after I first found him, but now it was worse. For some undefinable reason, I felt we kept getting closer each of the times.

I tried not to think about it and helped Doc through the fly-specked flophouse doors.

The tubercular clerk looked up from the gaudy comics sections of one of those little tabloids that have the funnies a week in advance.

"Fifteen cents a bed," he said mechanically.

"We'll use one bed," I told him. "I'll give you twenty cents." I felt the round hard quarter in my pocket, sweaty hand against sticky lining.

"Fifteen cents a bed," he played it back for me.

Doc was quivering against me, his legs boneless.

"We can always make it over to the mission," I lied.

The clerk turned his upper lip as if he were going to spit. "Aw-right, since we ain't full up. In advance."

I placed the quarter on the desk.

"Give me a nickel."

The clerk's hand fell on the coin and slid it off into the unknown before I could move, what with holding up Doc.

"You've got your nerve," he said at me with a fine mist of dew. "Had a quarter all along and yet you Martian me down to twenty cents." He saw the look on my face. "I'll give you a room for the two bits. That's better'n a bed for twenty."

I knew I was going to need that nickel. Desperately. I reached across the desk with my free

band and hauled the scrawny human up against the register hard. I'm not as strong in my hands as Doc, but I managed.

"Give me a nickel," I said.

"What nickel?" His eyes were big, but they kept looking right at me. "You don't have any nickel. You don't have any quarter, not if I say so. Want I should call a cop and tell him you were flexing a muscle?"

I let go of him. He didn't scare me, but Doc was beginning to mumble and that *did* scare me. I had to get him alone.

"Where's the room?" I asked.

THE room was six feet in all directions and the walls were five feet high. The other foot was finished in chicken wire. There was a wino singing on the left, a wino praying on the right, and the door didn't have any lock on it. At last, Doc and I were alone.

I laid Doc out on the gray-brown cot and put his forearm over his face to shield it some from the glare of the light bulb. I swept off all the bedbugs in sight and stepped on them heavily.

Then I dropped down into the painted stool chair and let my burning eyes rest on the obscene wall drawings just to focus them. I was so dirty, I could feel the grime grinding together all over

me. My shaggy scalp still smarted from the alcohol I had stolen from a convertible's gas tank to get rid of Doc's and my cooties. Lucky that I never needed to shave and that my face was so dirty, no one would even notice that I didn't need to.

The cramp hit me and I folded out of the chair onto the littered, uncovered floor.

It stopped hurting, but I knew it would begin if I moved. I stared at a jagged cut-out nude curled against a lump of dust and lint, giving it an unreal distortion.

Doc began to mumble louder. I knew I had to move.

I waited just a moment, savoring the painless peace. Then, finally, I moved.

I was bent double, but I got from the floor to the chair and found my notebook and orb-point in my hands. I found I couldn't focus both my mind and my eyes through the electric flashes of agony, so I concentrated on Doc's voice and trusted my hands would follow their habit pattern and construct the symbols for his words. They were suddenly distinguishable.

"Outsider... Thoth... Dyzan... Seven. . . Hean. . . Beyond Six, Seven, Eight. . . Two boxes. . . Ralston. . . Richard Wentworth... Jimmy Christopher. . . Kent Al-lard. . . Ayem. . . Oh, are. . . see. . ."

HIS voice rose to a meaningful wail that stretched into non-existence. The pen slid across the scribbled face of the notebook and both dropped from my numb hands. But I knew. Somehow, inside me, I knew that these words were what I had been waiting for. They told everything I needed to know to become the most powerful man in the Solar Federation.

That wasn't just an addict's dream. I knew who Doc was. When I got to thinking it was just a dream and that I was dragging this old man around North America for nothing, I remembered who he was.

I remembered that he was somebody very important whose name and work I had once known, even if now I knew him only as Doc.

Pain was a pendulum within me, swinging from low throbbing bass to high screaming tenor. I had to get out and get some. But I didn't have a nickel. Still, I had to get some.

I crawled to the door and raised myself by the knob, slick with greasy dirt. The door opened and shut—there was no lock. I shouldn't leave Doc alone, but I had to.

He was starting to cry. He didn't always do that.

I listened to him for a moment, then tested and tasted the craving that crawled through my veins. I

got back inside somehow.

Doc was twisting on the cot, tears washing white streaks across his face. I shoved Doc's face up against my chest. I held onto him and let him bellow. I soothed the lanks of soiled white hair back over his lumpy skull.

He shut up at last and I laid him down again and put his arm back across his face. (You can't turn the light off and on in places like that. The old wiring will blow the bulb half the time.)

I don't remember how I got out onto the street.

SHE was pink and clean and her platinum hair was pulled straight back, drawing her cheekbones tighter, straightening her wide, appealing mouth, drawing her lean, athletic, feminine body erect. She was wearing a powder-blue dress that covered all of her breasts and hips and the upper half of her legs.

The most wonderful thing about her was her perfume. Then I realized it wasn't perfume, only the scent of soap. Finally, I knew it wasn't that. It was just healthy, fresh-scrubbed skin.

I went to her at the bus stop, forcing my legs not to stagger. Nobody would help a drunk. I don't know why, but nobody will help you if they think you are blotto.

"Ma'am, could you help a man

who's not had work?" I kept my eyes down. I couldn't look a human in the eye and ask for help. "Just a dime for a cup of coffee." I knew where I could get it for three cents, maybe two and a half.

I felt her looking at me. She spoke in an educated voice, one she used, perhaps, as a teacher or supervising telephone operator. "Do you want it for coffee, or to apply, or a glass or hypo of something else?"

I cringed and whined. She would expect it of me. I suddenly realized that anybody as clean as she was had to be a tourist here. I hate tourists.

"Just coffee, ma'am." She was younger than I was, so I didn't have to call her that. "A little more for food, if you could spare it."

I hadn't eaten in a day and a half, but I didn't care much.

"I'll buy you a dinner," she said carefully, "provided I can go with you and see for myself that you actually eat it."

I felt my face flushing red. "You wouldn't want to be seen with a bum like me, ma'am."

"I'll be seen with you if you really want to eat."

It was certainly unfair and probably immoral. But I had no choice whatever.

"Okay," I said, tasting bitterness over the craving.

THE coffee was in a thick white cup before me on the counter. It was pale, grayish brown and steaming faintly. I picked it up in both hands to feel its warmth.

Out of the corner of my eye, I could see the woman sitting on the stool beside me. She had no right to intrude. This moment should be mine, but there she sat, marring it for me, a contemptible tourist.

I gulped down the thick, dark liquid brutally. It was all I could do. The tramp flowed out of my diaphragm. I took another swallow and was able to think straight again. A third swallow and I felt—good. Not abnormally stimulated, but strong, alert, poised on the brink of exhilaration.

That was what coffee did for me.

I was a caffeine addict.

Earth-norm humans sometimes have the addiction to a slight extent, but I knew that as a Centurian I had it infinitely worse. Caffeine affected my metabolism like a pure alkaloid. The immediate effects weren't the same, but the need ran as deep.

I finished the cup. I didn't order another because I wasn't a pure sensualist. I just needed release. Sometimes, when I didn't have the price of a cup, I would look around in alleys and find cola bottles with a few drops left

in them. They have a little caffeine in them — not enough, never enough, but better than nothing.

"Now what do you want to eat?" the woman asked.

I didn't look at her. She didn't know. She thought I was a human — an Earth human. I was a man, of course, not an alien like a Martian. Earthmen ran the whole Solar Federation, but I was just as good as an Earthman. With my suntan and short mane, I could pass, couldn't I? That proved it, didn't it?

"Hamburger," I said. "Well done." I knew that would probably be all they had fit to eat at a place like this. It might be horse meat, but then I didn't have the local prejudices.

I didn't look at the woman. I couldn't. But I kept remembering how clean she looked and I was aware of how clean she smelled. I was so dirty, so very dirty that I could never get clean if I bathed every hour for the rest of my life.

The hamburger was engulfed by five black-crowned, broken fingernails and raised to two rows of yellow ivory. I surrounded it like an amoeba, almost in a single movement of my jaws.

Several other hamburgers followed the first. I lost count. I drank a glass of milk. I didn't want to black out on coffee with Doc waiting for me.

"Could I have a few to take with me, miss?" I pleaded.

She smiled. I caught that out of the edge of my vision, but mostly I just felt it.

"That's the first time you've called me anything but 'ma'am,'" she said. "I'm not an old-maid schoolteacher, you know."

That probably meant she was a schoolteacher, though. "No, miss," I said.

"It's Miss Casey — Vivian Casey," she corrected. She was a schoolteacher, all right. No other girl would introduce herself as Miss Last Name. Then there was something in her voice. . .

"What's your name?" she said to me.

I choked a little on a bite of stale bun.

I had a name, of course.

EVERYBODY has a name, and I knew if I went off somewhere quiet and thought about it, mine would come to me. Meanwhile, I would tell the girl that my name was . . . Kevin O'Malley. Abruptly I realized that that was my name.

"Kevin," I told her. "John Kevin."

"Mister Kevin," she said, her words dancing with bright absurdity like waterhose mist on a summer afternoon. "I wonder if you could help me."

"Happy to, miss," I mumbled.

She pushed a white rectangle in front of me on the painted maroon bar. "What do you think of this?"

I looked at the piece of paper. It was a coupon from a magazine.

Dear Acolyte R. I. S.:

Please send me FREE of obligation, in sealed wrapper, "The Scarlet Book" revealing to me how I may gain Secret Mastery of the Universe.

Name:

Address:

The world disoriented itself and I was on the floor of the somber diner and Miss Vivian Casey was out of sight and scent.

There was a five dollar bill tight in my fist. The counterwoman was trying to pull it out.

I looked up at his stubbled face. "I had half a dozen hamburgers, a cup of coffee and a glass of milk. I want four more 'burgers to go and a pint of coffee. By your prices, that will be one sixty-five—if the lady didn't pay you."

"She didn't," he stammered. "Why do you think I was trying to get that bill out of your hand?"

I didn't say anything, just got up off the floor. After the counterwoman put down my change, I spread out the five dollar bill on

the vacant bar, smoothing it.

I scooped up my change and walked out the door. There was no one on the sidewalk, only in the doorways.

FIRST I opened the door on an amber world, then an azure one. Neon light was coming from the chickenwire border of the room, from a window somewhere beyond. The wind on one side of the room was singing and the one on the other side was praying, same as before. Only they had changed around—prayer came from the left, song from the right.

Doc sat on the floor in the half-darkness and he had made a thing.

My heart hammered at my lungs. I knew this last time had been different. Whatever it was was getting closer. This was the first time Doc had ever made anything. It didn't look like much, but it was a start.

He had broken the light bulb and used the filament and screw bottom. His strong hands had unraveled some of the bed "springs"—metal webbing—and fashioned them to his needs. My orb-point pen had dissolved under his touch. All of them, useless parts, were made into a meaningful whole.

I knew the thing had meaning, but when I tried to follow its design, I became lost.

I put the paper container of warm coffee and the greasy bag of hamburgers on the wooden chair, hoping the odor wouldn't bring any hungry rats out of the walls.

I knelt beside Doc.

"An order, my boy, an order," he whispered.

I didn't know what he meant. Was he suddenly trying to give me orders?

He held something out to me. It was my notebook. He had used my pen, before dismantling it, to write something. I tilted the notebook against the neon light, now

red wine, now fresh grape. I read it.

"Concentrate," Doc said hoarsely. "Concentrate. . ."

I wondered what the words meant. Wondering takes a kind of concentration.

The words "First Edition" were what I was thinking about most.

THE heavy-set man in the ornate armchair was saying, "The bullet struck me as I was pulling on my boot. . ."

I was kneeling on the floor of a Victorian living room. I'm quite familiar with Earth history and I



recognized the period immediately.

Then I realized what I had been trying to get from Doc all these months — time travel.

A thin, sickly man was sprawled in the other chair in a rumpled dressing gown. My eyes held to his face, his pinpoint pupils and whitened nose. He was a condemned snowbird! If there was anything I hated or held in more contempt than tourists or Martians, it was a snowbird.

"My clients have occasioned singular methods of entry into these rooms," the thin man re-

marked, "but never before have they used instantaneous materialization."

The heavier man was half choking, half laughing. "I say — I say, I would like to see you explain this, my dear fellow."

"I have no data," the thin man answered coolly. "In such instance, one begins to twist theories into fact, or facts into theories. I must ask this unemployed, former professional man who has gone through a serious illness and is suffering a more serious addiction to tell me the place and time from which he comes."



The surprise stung. "How did you know?" I asked.

He gestured with a pale hand. "To maintain a logical approach, I must reject the supernatural. Your arrival, unless hallucinatory — and despite my voluntary use of one drug and my involuntary experiences recently with another, I must accept the evidence of my senses or retire from my profession — your arrival was then super-normal. I might say super-scientific, of a science not of my or the good doctor's time, clearly. Time travel is a familiar folk legend and I have been reading an article by the entertaining Mr. Wells. Perhaps he will expand it into one of his novels of scientific romance."

I knew who these two men were, with a tormenting doubt. "But the other —"

"Your hands, though unclean, have never seen physical labor. Your cranial construction is of a superior type, or even if you reject my theories, concentration does set the facial features. I judge you have suffered an illness because of the inhibition of your beard growth. Your overfondness for rum or opium, perhaps, is self-evident. You are at too resilient an age to be so sunk by even an amour. Why else then would you let yourself fall into such an underfed and unsanitary state?"

HE WAS so smug and so sure, this snowbird. I hated him. Because I couldn't trust to my own senses as he did.

"You don't exist," I said slowly, painfully. "You are fictional creations."

The doctor flushed darkly. "You give my literary agent too much credit for the addition of professional polish to my works."

The other man was filling a large, curved pipe from something that looked vaguely like an ice-skate. "Interesting. Perhaps if our visitor would tell us something of his age with special reference to the theory and practice of temporal transference, Doctor, we would be better equipped to judge whether we exist."

There was no theory or practice of time travel. I told them all I had ever heard theorized from Hindu yoga through Extra-sensory Perception to Relativity and the positron and negatron.

"Interesting." He breathed out suffocating black clouds of smoke. "Presume that the people of your time by their 'Extra-sensory Perception' have altered the past to make it as they suppose it to be. The great historical figures are made the larger than life-size that we know them. The great literary creations assume reality."

I thought of Cleopatra and Helen of Troy and wondered if they would be the goddesses of

love that people imagined or the scrawny, big-nosed redhead and fading old woman of scholarship. Then I noticed the detective's hand that had been resting idly on a round brass weight of unknown sort to me. His tapered fingertips had indented the metal.

His bright eyes followed mine and he smiled faintly. "Withdrawal symptoms."

The admiration and affection for this man that had been slowly building up behind my hatred unbrinked. I remembered now that he had stopped. He was not really a snowbird.

After a time, I asked the doctor a question.

"Why, yes. I'm flattered. This is the first manuscript. Considering my professional handwriting, I recopied it more laboriously."

Accepting the sheaf of papers and not looking back at these two great and good men, I concentrated on my own time and Doc. Nothing happened. My heart raced, but I saw something dancing before me like a dust mote in sunlight and stepped toward it. . .

. . . into the effective range of Miss Casey's tiny gun.

SHE inclined the lethal silver toy. "Let me see those papers, Kevin."

I handed her the doctor's manuscript.

Her breath escaped slowly and

loudly. "It's all right. It's all right. It exists. It's real. Not even one of the unwritten ones. I've read this myself."

Doc was lying on the cot, half his face twisted into horror.

"Don't move, Kevin," she said. "I'll have to shoot you—maybe not to kill, but painfully."

I watched her face flash blue, red, blue and knew she meant it. But I had known too much in too short a time. I had to help Doc, but there was something else.

"I just want a drink of coffee from that container on the chair," I told her.

She shook her head. "I don't know what you think it does to you."

It was getting hard for me to think. "Who are you?"

She showed me a card from her wrist purse. Vivian Casey, Constable, North American Mounted Police.

I had to help Doc. I had to have some coffee. "What do you want?"

"Listen, Kevin. Listen carefully to what I am saying. Doc found a method of time travel. It was almost a purely mathematical, topographical way divorced from modern physical sciences. He kept it secret and he wanted to make money with it. He was an idealist—he had his crusades. How can you make money with time travel?"



I didn't know whether she was asking me, but I didn't know. All I knew was that I had to help Doc and get some coffee.

"It takes money—money Doc didn't have—to make money," Miss Casey said, "even if you know what horse will come in and what stock will prosper. Besides, horse-racing and the stock market weren't a part of Doc's character. He was a scholar."

Why did she keep using the past tense in reference to Doc? It scared me. He was lying so still with the left side of his face so twisted. I needed some coffee.

"He became a book finder. He got rare editions of books and magazines for his clients in absolutely mint condition. That was all right—until he started obtaining books that *did not exist*."

I DIDN'T know what all that was supposed to mean. I got to the chair, snatched up the coffee container, tore it open and gulped down the soothing liquid.

I turned toward her and threw the rest of the coffee into her face.

The coffee splashed out over her platinum hair and powder-



blue dress that looked white when the neon was azure, purple when it was amber. The coffee stained and soiled and ruined, and I was fiercely glad, unreasonable happy.

I tore the gun away from her by the short barrel, not letting my filthy hands touch her scrubbed pink ones.

I pointed the gun generally at her and backed around the thing on the floor to the cot. Doc had a pulse, but it was irregular. I checked for a fever and there wasn't one. After that, I didn't know what to do.

I looked up finally and saw a Martian in or about the doorway.

"Call me Andre," the Martian said. "A common name but foreign. It should serve as a point of reference."

I had always wondered how a thing like a Martian could talk. Sometimes I wondered if they really could.

"You won't need the gun," Andre said conversationally.

"I'll keep it, thanks. What do you want?"

"I'll begin as Miss Casey did — by telling you things. Hundreds of people disappeared from North

America a few months ago."

"They always do," I told him.

"They ceased to exist—as human beings—shortly after they received a book from Doc," the Martian said.

Something seemed to strike me in the back of the neck. I staggered, but managed to hold onto the gun and stand up.

"Use one of those sneaky Martian weapons again," I warned him, "and I'll kill the girl." Martians were supposed to be against the destruction of any life-form, I had read someplace. I doubted it, but it was worth a try.

"Kevin," Andre said, "why don't you take a bath?"

The Martian weapon staggered me again. I tried to say something. I tried to explain that I was so dirty that I could never get clean no matter how often I bathed. No words formed.

"But, Kevin," Andre said, "you aren't *that* dirty."

THE blow shook the gun from my fingers. It almost fell into the thing on the floor, but at the last moment seemed to change direction and miss it.

I knew something. "I don't wash because I drink coffee."

"It's all right to drink coffee, isn't it?" he asked.

"Of course," I said, and added absurdly, "That's why I don't wash."

"You mean," Andre said slowly, ploddingly, "that if you bathed, you would be admitting that drinking coffee was in the same class as any other solitary vice that makes people wash frequently."

I was knocked to my knees.

"Kevin," the Martian said, "drinking coffee represents a major voice only in Centurian humanoid, not Earth-norm human beings. Which are you?"

Nothing came out of my gabbling mouth.

"What is Doc's full name?"

I almost fell in, but at the last instant I caught myself and said, "Doctor Kevin O'Malley, Senior."

From the bed, Doc said a word. "Son."

Then he disappeared.

I looked at that which he had made. I wondered where he had gone, in search of what.

"He didn't use that," Andre said.

So I was an Earthman, Doc's son. So my addiction to coffee was all in my mind. That didn't change anything. They say sex is all in your mind. I didn't want to be cured. I wouldn't be. Doc was gone. That was all I had now. That and the thing he left.

"The rest is simple," Andre said. "Doc O'Malley bought up all the stock in a certain ancient metaphysical order and started supplying members with certain

books. Can you imagine the effect of the *Book of Dyzen* or the *Book of Thoeth* or the *Seven Cryptical Books of Hsen* or the *Necromicon* itself on human beings?"

"But they don't exist," I said wearily.

"Exactly, Kevin, exactly. They have never existed any more than your Victorian detective friend. But the unconscious racial mind has reached back into time and created them. And that unconscious mind, deeper than psychology terms the subconscious, has always known about the powers of ESP, telepathy, telekinesis, precognition. Through these books, the human race can tell itself how to achieve a state of pure logic, without food, without sex, without conflict—just as Doc has achieved such a state—a little late, true. He had a powerful guilt complex, even stronger than your withdrawal, over releasing this blessing on the inhabited universe, but reason finally prevailed. He had reached a state of pure thought."

"The North American government has to have this secret, Kevin," the girl said. "You can't let it fall into the hands of the Martians."

ANDRE did not deny that he wanted it to fall into his hands.

I knew I could not let Doc's—

Dad's—time travel thing fall into anyone's hands. I remembered that all the copies of the books had disappeared with their readers now. There must not be any more, I knew.

Miss Casey did her duty and tried to stop me with a judo hold, but I don't think her heart was in it, because I reversed and broke it.

I kicked the thing to pieces and stomped on the pieces. Maybe you can't stop the progress of science, but I knew it might be millenniums before Doc's genes and creative environment were recreated and time travel was rediscovered. Maybe we would be ready for it then. I knew we weren't now.

Miss Casey leaned against my dirty chest and cried into it. I didn't mind her touching me.

"I'm glad," she said.

Andre flowed out of the doorway with a sigh. Of relief?

I would never know. I supposed I had destroyed it because I didn't want the human race to become a thing of pure reason without purpose, direction or love, but I would never know for sure. I thought I could kick the habit—perhaps with Miss Casey's help—but I wasn't really confident.

Maybe I had destroyed the time machine because a world without material needs would not grow and roast coffee.

—JIM HARMON

(Continued from page 4)

are as thoroughly domesticated as the dog) are a special case — it is as though an American child were brought up in Babylon; he would undoubtedly learn to communicate, but it would be in Babylonian terms and not in the language he had been born to."

Pohl refers to a dog named Fellow, "an honored guest at Columbia University (who) had a vocabulary in English of four hundred words, which he recognized regardless of who spoke them." But Pohl dismisses Dog as contaminated with Human.

However, he says, "Cat might be purer — some 15 words of Cat have been identified, along with some six words of Horse and a few each of Elephant and Pig. But the linguists of the animal kingdom, at least in their own and native tongues, are the primates . . . The chimpanzee, best studied of primates short of Man, not only has a vocabulary of some 32 distinct words, according to Blanche Learned, but may have a unique claim to linguistic fame. A philologist named George Schwidetzky believes he has found traces of Chimpanzee loan-words in ancient Chinese ('ngak'), in a South African Bushman dialect (a tongue click), and even in modern German! (The German word, 'geck,' derived from Chimpanzee 'gack'.)

"One definition of Man calls him 'the tool-using animal' — yet elephants crop tree branches to swat flies, spider monkeys construct vine ladders for their young, and there is some plausible evidence that the polar bear hunts sleeping walruses with the aid of that primitive tool, the missile, in the form of a hurled chunk of ice. Another definition identifies Man as 'the linguistic animal' — but even the few remarks above will indicate that that claim is far less than unique."

Pohl's postscript only hints at the great activity in deciphering animal languages and errs in stating that the frog is the lowest animal to have a voice — recordings of fish voices reveal the allegedly silent depths to be nobler than a reform school classroom.

The practical applications of all this research? *Slave Ship* details many; maybe you remember how its farmers teach cattle to eat weeds and leave the pay-crop alone, which could be done by any farmer today who cares to learn Cow. Fish could conceivably be a big help in surface and submarine ship detection.

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— H. L. GOLD



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